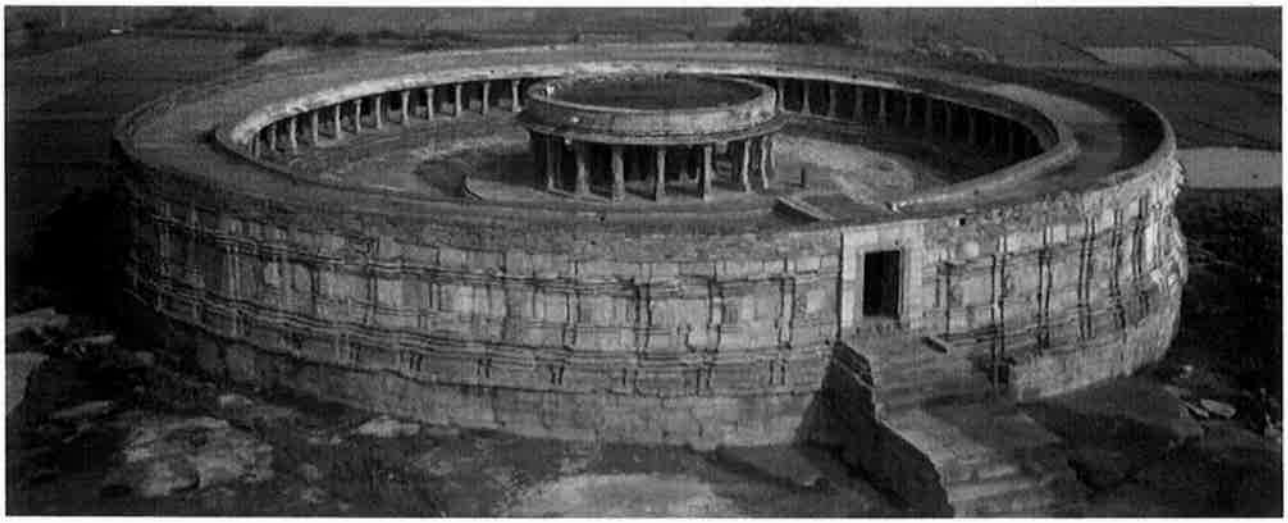
GOVERNMENT OF
MADHYA PRADESH

DISTRICT SURVEY REPORT OF MORENA

FOR MINOR MINERAL- FLAGSTONE



SUB DIVISIONAL COMMITTEES,
MORENA(M.P)

State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

क्रमांक/खनिज/DSR/2022–23/996 मुरैना,दिनांक 16.09.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC)
म.प्र. प्रदूषण नियंत्रण बोर्ड,
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– संशोधित जिला सर्वेक्षण रिपोर्ट **(DSR)** मय निर्धारित फॉर्मेट अनुसार तैयार कर प्रस्तुत करने बावत्।

संदर्भः– 1–कार्यालयीन पत्र क0/खनिज/DSR/2022–23/953 मुरैना दि. 30.08.2022।
2–वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022।

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कृपया संदर्भित पत्र का अवलोकन करने का कष्ट करें, जिसके द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662/2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेष दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020 के तहत् रेत खनिज से भिन्न अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) के लिये तैयार कर अग्रिम कार्यवाही हेतु भेजी गई थी।

आपके द्वारा वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022 में दिये निर्देशानुसार मुरैना जिले की अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) पृथक–पृथक जिला सर्वेक्षण रिपोर्ट (D.S.R.) मय निर्धारित फॉर्मेट (16 बिन्दुओं) अनुसार वीडियो कॉन्फ्रेसिंग में दिये निर्देशानुसार के पालन में तैयार कर पत्र के संलग्न अग्रिम कार्यवाही हेतु कृपया सादर प्रस्तुत है।

संलग्नः–
(D.S.R.) की संशोधित प्रतियां
1–मुरम
2–फर्सीपत्थर
3–मिटटी (चिमनीभटटा)
4–केशरगिटटी

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना म0प्र0)

क्रमांक / खनिज / DSR /2022–23 / 953 मुरैना,दिनांक 30.08.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC),
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– जिला सर्वेक्षण रिपोर्ट (D.S.R.) प्रस्तुत करने के संबंध में।

संदर्भः– 1–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 5012 / भौमिकी / न0क0 / 2022 भोपाल, दिनांक 13.04.2022 एवं पत्र क्रमांक 8192 दिनांक 16.06.2022।
2–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क. / 2022 भोपाल, दिनांक 03.03.2022

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उपरोक्त विषयान्तर्गत संदर्भित पत्रों द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माईनिंग 2020 गाइड लाईन के पालन में तहत (रेत खनिज) से भिन्न अन्य गौण खनिज **केशर गिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा)** के लिये पृथक–पृथक कुल 04 प्रारूप जिला सर्वेक्षण रिपोर्ट (D.S.R.) का परीक्षण किया गया एवं अनुमोदित किये जाने हेतु अनुशंसा की गई है।

प्रारूप डी.एस.आर. को नियत समयावधि हेतु दिनांक 02.08.2022 से 23.08.2022 (21 दिवस) हेतु मुरैना जिले के पोर्टल (morena.nic.in) पर तथा हार्डकॉपी खनिज कार्यालय मुरैना में आमजन के दावा / आपत्ति एवं सुझाव हेतु रखी गयी, जिसमें दावा / आपत्तियों प्राप्त नहीं हुई है।

संचालक, भौमिकी तथा खनिकर्म, भोपाल के पत्र कमांक / 8192 दिनांक 16.06.2022 द्वारा दिये गये निर्देश अनुसार निर्धारित फार्मेट में अघतन वांछित जानकारी मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (D.S.R.) अग्रिम कार्यवाही हेतु आपकी ओर प्रेषित है।

कलेक्टर
जिला मुरैना (म.प्र.)

संलग्नः–
डी.एस.आर. की प्रतियां
1–केशर गिटटी,
2–फर्सीपत्थर
3–मुरम
4–मिट्टी (चिमनीभट्टा)

पृ0क्रमांक / खनिज / DSR /2022–23 मुरैना,दिनांक

प्रतिलिपिः–

1. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. (SEIAA) की ओर सूचनार्थ प्रेषित ।
2. संचालक, भौमिकी तथा खनिकर्म, 29–ए, अरेरा हिल्स, भोपाल की ओर सूचनार्थ।
3. क्षेत्रीय कार्यालय, संचालनालय भौमिकी तथा खनिकर्म, मोतीमहल ग्वालियर की ओर सूचनार्थ।
4. प्रभारी अधिकारी, एन0आई0सी0, कलेक्ट्रेट, मुरैना (म0प्र0) की ओर सूचनार्थ।
5. जिला खनि अधिकारी, जिला मुरैना की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।

कलेक्टर
जिला मुरैना (म.प्र.)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म.प्र.)

क्रमांक / खनिज / DSR/2022 मुरैना, दिनांक 01/08/2022

जिला सर्वेक्षण रिपोर्ट (प्रारूप) की अनुशंसा हेतु आयोजित बैठक का कार्यवाही विवरण

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माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021 के अनुसार **सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020** के पालन में संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क्र. / 2022 भोपाल, दिनांक 03.03.2022 तथा कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना का आदेश क्रमांक / खनिज / DSR / 2022 / 852 मुरैना, दिनांक 22.07.2022 के पालन में तैयार की गई जिला सर्वेक्षण रिपोर्ट (District Survey Report)(प्रारूप) की अनुशंसा हेतु आयोजित बैठक दिनांक 01.08.2022 में निम्नानुसार सदस्य उपस्थित हुये :–

1– अनुविभागीय अधिकारी (राजस्व) मुरैना।
2– खनि अधिकारी, जिला मुरैना
3– कार्यपालन यंत्री, जल संसाधन विभाग, मुरैना।
4– राज्य प्रदूषण नियंत्रण मण्डल के नामांकित अधिकारी।
5– उप वनमण्डलाधिकारी, उप वनमण्डल, मुरैना ।

उपरोक्तानुसार आयोजित बैठक में रेत खनिज से भिन्न अन्य गौण खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के लिये पृथक–पृथक तैयार की गई जिला सर्वेक्षण रिपोर्ट (D.S.R.) के संबंध में चर्चा की गई, जो सही पाई गई। उक्त जिला सर्वेक्षण रिपोर्ट (प्रारूप) पर्यावरण, वन और जलवायु परिवर्तन मंत्राल की अधिसूचना दिनांक 25.07.2018 में विहित प्रावधानों के अनुरूप है। उक्त 04–जिला सर्वेक्षण रिपोर्ट (प्रारूप) खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के संबंध में अग्रिम कार्यवाही हेतु सर्वसम्मति से अनुशंसा की जाती है।

संलग्न :– डी.एस.आर.की प्रति सॉफ्ट कॉपी, हार्डकॉपी

अनुविभागीय अधिकारी
(राजस्व)
अनुभाग मुरैना (म.प्र.)

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म.प्र.)

उप वनमण्डलाधिकारी
सामान्य वनमण्डल
जिला मुरैना (म.प्र.)

कार्यपालन यंत्री
जल संसाधन विभाग
जिला मुरैना (म.प्र.)

प्रभारी अधिकारी
राज्य प्रदूषण नियंत्रण मण्डल
ग्वालियर (म.प्र.)

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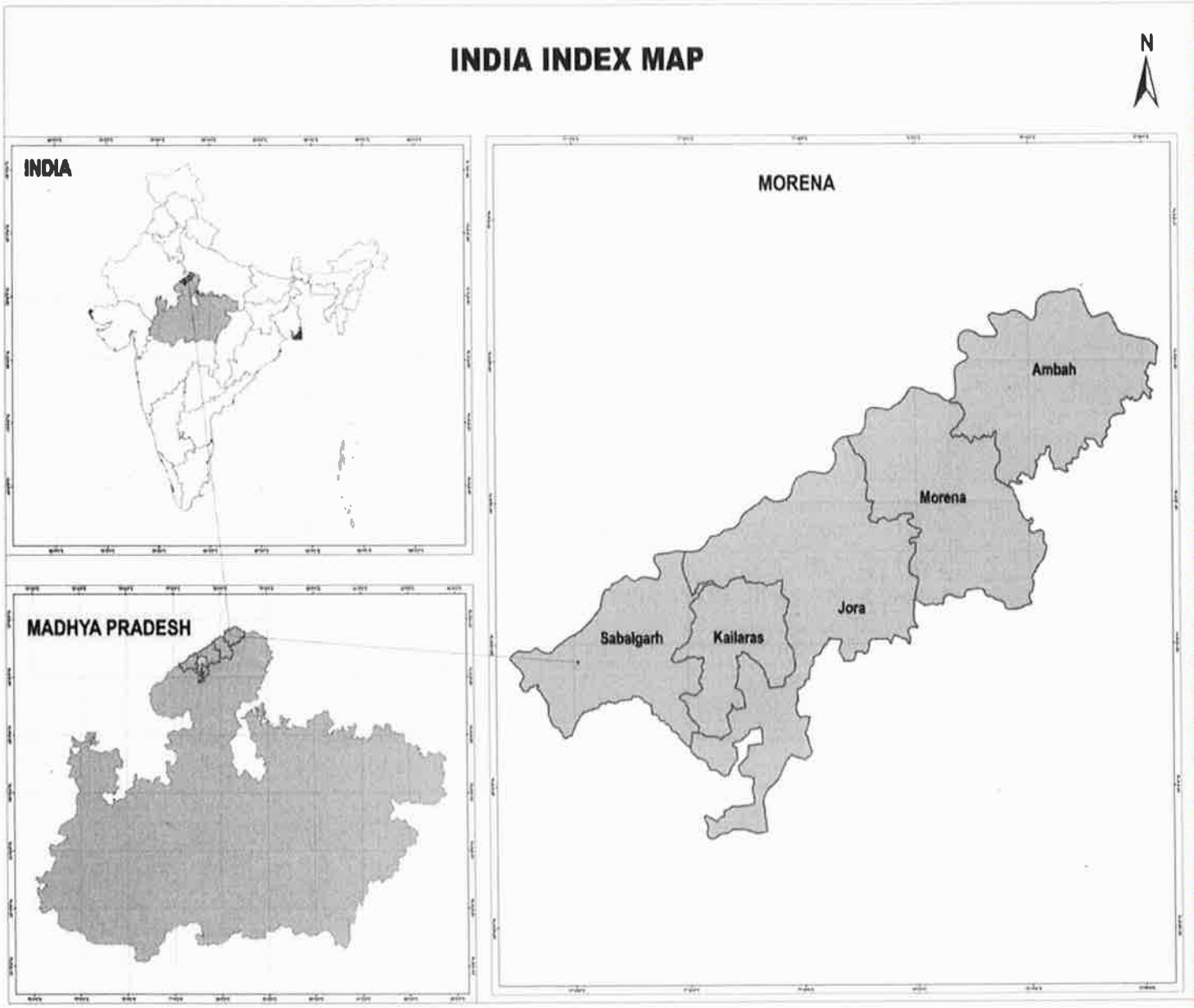
FOR D.S.R. MINOR MINERAL- FLAGSTONE

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना



State Level Environment Impact Assessment Authority, M.P. (EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

District Survey Report: Morena

Introduction

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Geographical Information:

Geography & Climate	
Latitude	$76^0$30" से $78^0$33"
Longitude	$25^0$17" से $26^0$52"
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

जिला कार्यालय (खनिज शाखा) मुरैना

State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

River/Lake:

The district falls in drainage area of Yamuna system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river: This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river:This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river:The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Boundaries:

The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest

Climate:

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 47.10 celsius. In cold season the district has freezing cold and temperature drops to 3.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north - western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September, June being the rainiest month.

State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

Approach Road/Rail:

The district headquarters is located on Agra-Mumbai National Highway No.3 and on Central railway lines. Roads are constructed by P.W.D., Forest Department and Rural Development Department in the district which are inter-connected with Tahsils and community development Blocks headquarters as well as with all village panchayats . On the Central rail line of the district Morena , Sank, Nurabad, Bamor, Sikranada, and Hetampur stations are situated. The Gwalior – Sheopur narrow gauge railway line passes through the district where Bamor, Jaora, Kailaras Ran-Pahadi and Sabalgarh are main stations and on Gwalior to Bhind railway lines there are Shanichara and Rethaura railway stations. The nearest air facility is available at Gwalior.

Physiography:

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state.

The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

History

As per the local belief, there were sarai(shelter), at place like Morena, Noorabad, Chhoda, Porsa etc. on the highway during the Mughal period. The town was named after the small village of Muraina, located about 8 km. away from the present town. The nearby railway station of Shikarpur and the sarai was also later renamed after the old village. Initially it was called Pench-Morena as it had a number of cotton processing machines.

The district is located on the north-western border of the state in Chambal valley. The present

Morena is combined with the Sikarwari and Tanwargarh districts of 19th century. Due to major settlement of Sikarwar Rajputs in Ambah area, this was known as Sikarwari. Similary due to the settlement of Tanwars(Tomars) in Joura area, the central part of the district was called Tanwargarh. The district Sikarwari, the part of former Gwalior state was later on merged into Tanwarghar in 1904 with headquarters of Joura-Alapur which is presently a tahsil headquaters. As per order No 6/10/1923 the pargana headquarters shifted from Nurabad to Morena and vide order No. 492 dated 6/10/1923 the district headquarters was also changed to Morena. In the year 1948 consequent to the formation of Madhya Bharat the Sheopur district of former Gwalior state was included in Madhya Bharat. Later it became a separate district after the reorganisation of Madhya Pradesh.As per Notification No. 1002/F/20-08-92/Sha. 8 M.P. dated 22nd May 1998, Sheopur, Karahal and Vijaypur tahsils were excluded from Morena district and a new district Sheopur was formed. Morena, Porsa, Ambah, Joura, Kailaras and Sabalgarh tahsil remained in Morena district.

During an excavation in the year 1927-28 in Kutwar village, a huge treasure chest of 18,659 bronze coins was found from which it can be firmly said that during the 3rd and 4th centuries this area was under the rule of Naga Kings. After the Nagas, Guptas, Hoons, Vardhans, Gurjaras, Pratihars, Chandellas and Kachchhapaghatas successfully ruled over this territory. Kirtiraja was the famous king of this dynasty, under whose period the temples of Sihonia were built. After the dynasty of Kachchhapaghatas clans of TomarRajputs etc. ruled over this region till 1526. After the hegemony of Mughals, during the period of the administrative reorganization of the district fell partly within the sarkars of Sheopur and Baroda Mahal, Ajmer suba of Ranthambhor Sarkar, AlapurMahal, Agra Subah of Gwalior Sarkar and Awantgarh and Vijepur Mahal Subah were under the rule of Mandal Sarkar, Remaining areas were included under Gwalior Sarkar.

From the period after invasion of the area by Akbar to last decade of 18th century, this area was part of Mughal. After the eventful battle of Panipat in 1761, Mahadji Sindhia captured Gwalior and by footing into nearby regions and the history of Morena became a part of Gwalior. Due to the services and the policy acceleration by the French commander of the Sindhias army named Jean Baptiste Fillose who trained and administered the army of Sindhia the army power of Mahadji Sindhia became more powerful. After Mahadji Sindhia, Daulat Rao Sindhia established Gwalior as Capital in 1810. In 1853 the Gwalior state was divided into different units under the able guaidance of minister Sir Dinkar Rao during the regime of Jayaji Rao Sindhiya (1843-1886). The state was divided into 3 Prants of Gwalior, Isagarh and Malwa, which were further divided into 19 districts and 62 tahsils. The area of present

Morena was divided into 4 districts viz. Sabalgarh, Sheopur, Sikarwari and Tanwarghar. During the period of the Great Revolt of 1857, Javaji Rao Sindhia decided to remain loyal to British. As and when the Sepoys of Gwalior heard about the fierce fight of the Rani Jhansi they joined the Great Revolt on the night of 14th June 1857. The revolt army reached Kalpi in November 1857 and joined the great revolt under the leadership of Tatya Tope. The situation grew worse in June 1858 when Gwalior was attacked by combined forces of Rani Laxmi Bai of Jhansi, Rao Saheb and Tatya Tope. The Maharaja and his Diwan Dinkar Rao fled to Agra when the leaders of revolt captured Gwalior. On 17th June an appalled battle between Sir Huge Rose and sepoys of the great revolt was fought under the leadership of Rani of Jhansi with combined forces of Naresh (King) of Banda. The nawab of Banda lost one of his arm and in the battle the Rani of Jhansi attained martyrdom. Sir Huge Rose offered his condolence with statement that "Rani of Jhansi was a brave and great general". With achievement of independence of India on 15th August 1947, Gwalior state was included in Union of India and on 28th May 1948 reorganization of states it was included in an unified state of Madhya Bharat. Morena became separate district, as a result of the reorganization of states of the formation of new Madhya Pradesh on 1st Nov. 1956.

Chambal Sanctuary Notifications

Administrative approval of the Government of India for the establishment of the National Chambal Sanctuary was conveyed in Order No. 17-74/77-FRY (WL) dated 30 September 1978. The Sanctuary has sanctuary status declared under Section 18(1) of the Wildlife Protection Act of 1972. Since such a declaration is carried out by individual states for territory falling within their jurisdiction, there are three separate notifications covering the National Chambal Sanctuary - the Madhya Pradesh portion was gazetted in the Government of Madhya Pradesh Notice No. F.15/5/77-10(2) dated 20 December 1978, the Uttar Pradesh portion was gazetted in the Government of Uttar Pradesh Notice No. 7835/XIV-3-103-78 dated 29 January 1979 and the Rajasthan portion was gazetted in the Government of Rajasthan Notice No.F.11(12)Rev.8/78 dated 7 December 1979.[5]

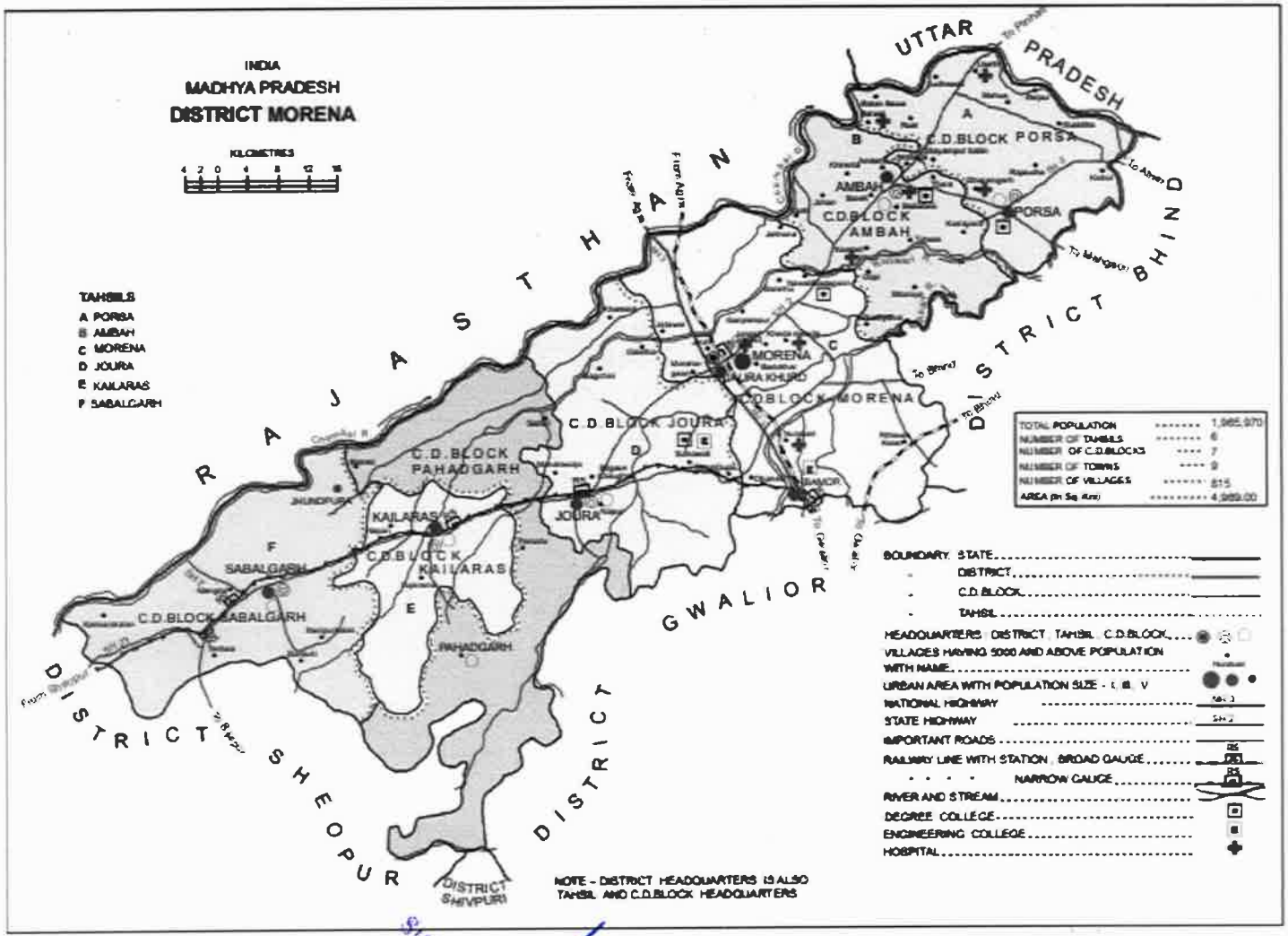
The sanctuary is protected under India's Wildlife Protection Act of 1972. The sanctuary is administered by the Department of Forest under the Project Officer with headquarters at Morena, Madhya Pradesh

General Features

Administrative Setup of the District

DISTRICT	Tehsil Places
MORENA	AMBAH
	PORSA
	MORENA
	BANMOR
	JOURA
	KAILRAS
	SABALGRAH

Location Map of the District



State Le... Environment Impact Assessment Authority, M...

जिला कार्यालय (खनिज शाखा) मुरैना

List of the Letter of the Intent Holder and Details of the existing Lease in the District

Flagstone Mines

S. N.	Name Of Mineral	Name Of Lessee, Address and Contact No.	Mining Lease Grant Order No. & Date	Village	Survey No./ Area Of Mining Lease Hact.	Period of Mining Lease (Initial)	Period of Mining Lease (1/2 .. renewal)	Date of Commencement of Mining Operation	Status (Working/ Non-Working for dispatch etc.)	Captive/ Non captive	Obtained Environmental Clearance (Yes/No) If Yes latter No. with date of Grant of EC	Location of Mining lease (latitude & Longitude)	Method of Mining Open Cast/ Under ground	Number of tree plantation set up at the mine
1	2	3	4	5	6	7 8	9 10	11	12	13	14	15	16	17
1	फसीपत्थर	जसवीरसिंह गुर्जर पुत्र श्री अतर सिंह गुर्जर नि0 पुर पढावली जिला मुरैना 9981733298	QL/14/2014-23/02/2015	पढावली (निजी)	881/7, 881/13 1.254 हे0	28.12.15 से 27.12.25	28.12.15 से 27.12.25	28.12.15	Working	Non captive	YES SEIAA/7243 05/11/2015	26°25'32.16"N 78°10'46.69"E	Open Cast	28
2	फसीपत्थर	श्री लक्ष्मण गुर्जर पुत्र श्री रामसिंह गुर्जर निवासी नैनागढ रोड, मुरैना 9425127775	QL/06/2015-04/07/2016	रचोली (निजी)	62 2.090 हे0	16.08.16 से 15.08.26	16.08.16 से 15.08.26	16.08.16	Working	Non captive	YES DEIAA/37/2016 30/05/2016	26°25'47.48"N 78°10'12.34"E	Open Cast	46
3	फसीपत्थर	आशीष मुदगल पुत्र श्री रामबृज मुगदल नि0 233 प्रगति भवन, कोटेश्वर कॉलोनी, ग्वा0 6260671007	QL/53/2016-22/10/2016	गडाजर (निजी)	962 मिन–2 964 मिन–2 971 मिन–2 972 मिन–2 984 मिन–2 1.040 हे0	23.11.2016 से 22.11.26	23.11.2016 से 22.11.26	23.11.16	Working	Non captive	YES DEIAA/72/2016 17/10/2016	26°23'08.1"N 78°11'16.7"E	Open Cast	23
4	फसीपत्थर	जितेन्द्र सिंह पुत्र श्री पूरन सिंह गुर्जर नि0 ग्राम पारौली तहसील व जिला मुरैना 9926162015	QL/06/2018-17/10/2019	पारौली (निजी)	109/1, 109/2, 112/7/4 1.065 हे0	26.10.19 से 25.10.24	26.10.19 से 25.10.24	26.10.19	Working	Non captive	YES SEIAA/2192 18/09/2019	26°22'53.49"N 78° 8'55.96"E	Open Cast	24

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5	फर्सीपत्थर	श्रीमती सुमन पत्नी श्री बृजेश नि0 ग्राम गैपरी विश्नोरी तहसील जौरा जिला मुरैना 9425162200	सैद्धांतिक सहमति	पढावली	883 4.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	88
6	फर्सीपत्थर	मैसर्स यशराज इन्टरप्रायजेज़ प्रो0 श्री यशराज जादौन पुत्र श्री वीरेन्द्र सिंह जादौन नि0 ई–7, एम 708, अरेरा कॉलोनी, भोपाल 9617990600	सैद्धांतिक सहमति	पढावली	883 3.500 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	77

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Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

जिला कार्यालय (खनिज शाखा) मुरैना

Details of Royalty and Revenue received and Mineral Production in last three years for Minor Mineral Mine lease (2018-19, 2019-2020 and 2020-2021):

Revenue received in last three years Mine lease

सं.क्र.	वर्ष	निर्धारित लक्ष्य	लक्ष्य के विरूद्ध प्राप्त राजस्व	प्रतिशत
1	2018-2019	800.00 Lakh	6,75,38,910/-	84.4
2	2019-2020	900.01 Lakh	9,42,20,393/-	104.5
3	2020-2021	1200.00 Lakh	16,63,59,383/-	138.63

Revenue received in last three years for Flagstone Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Revenue (In Rs.)
1	Flagstone	2018-19	1,11,72,080/-
		2019-20	1,22,23,043/-
		2020-21	1,37,88,321/-

Mineral Production in last three years for Flagstone Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Production in Cubic Meter
1	Flagstone	2018-19	37240.27
		2019-20	34922.98
		2020-21	39395.21

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Uses of Minerals

Minor Minerals are mainly use for construction purpose. Minor Minerals' comprise of gravel, building stones, soil, ordinary clay, ordinary sand, and murrum. Other sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.

Crushed stone (Gitti): Angular crushed stone is the key material for macadam road construction, which depends on the interlocking of the individual stones' angular faces for its strength. Also use as rip rap, as railroad track ballast, as composite material (with a binder) in concrete, tarmac, and asphalt concrete.

Sand: Sand is used to give strength, bulk and other properties to construction materials like asphalt and concrete. In landscaping, it is used as a decorative material. A particular type of sand is used for glass manufacturing. Likewise, it is used for metal casting as a moulding material.

Murrum: It is a mixture of minerals, organic matters, gravels, rock particles etc. Murum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.

Soil: Ordinary earth soil used for filling the embankment, roads, railways and building. Soil which is excavated from mine is also used for different purpose of construction.

Brick Clay/Soil: Brick clay/Soil is rich in alumina, silica, calcium, oxides of iron, magnesium and organic matter. These are low grade clays used most for the manufacturing of building bricks and similar clay products.

Formation of sand

Majority of rivers originate from mountains and as they continue their journey with force, through these mountains, the bigger rocks and boulders disintegrate slowly, and over a period of time, starts rolling down as fragments. These fragments become smaller and smaller due to Weathering process by water, wind and other rocks. Thus, developed sand particles are transported, washed and stored and again transported during floods and deposited at river beds and largely on river shores.In case the sand deposits are mined / removed, cavities are formed in their place and again filled during next cycle(s) of deposition.

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River sand is preferred as a source of sand because of the following factors:

- Cities tend to be located near rivers so transport costs are low, the energy in a river grinds rocks into gravels and sands
- Eliminating the costly step of mining, grinding, and sorting of rocks
- The material produced by rivers tends to consist of resilient minerals of angular shape that are preferred for construction.
- Also, offer the advantages of being naturally sorted by grain-size, easily accessible, and able to be transported inexpensively using barges. Despite plentiful supplies of desert sand (Aeolian), which produce materials unsuitable for making concrete.

A meandering stream has a single channel that wind snakelike through its valley. As water flows around these curves, the outer edge of water is moving faster than the inner edge. This creates an erosionsurface on the outer edge (a cut bank) and a depositional surface on the inner edge (a point bar). Where the bends of two meanders meet, they bypass the curve of river, creating an oxbow lake which may then be in-filled with over wash sediment.

Meanders change position by eroding sideways and slightly downstream. The sideways movement occurs because the maximum velocity of the stream shifts toward the outside of the bend, causing erosion of the outer bank. At the same time the reduced current at the inside of the meander results in the deposition of coarse sediment, especially sand. Thus by eroding its outer bank and depositing material along its inner bank, a stream moves sideways without changing its channel size. Due to the slope of the channel, erosion is more effective on the downstream side of a meander.

The specific gravity of an aggregate is considered as the measure of strength or quality of the material. Specific gravity is defined as the ratio of weight of a given volume of aggregate to the weight of equal volume of water. Aggregates having low specific gravity are generally weaker than those with aggregates having high specific gravity. This property helps in a general identification of aggregates. The specific gravity of (sand) is considered to be around 2.65 to 2.67.Sand particles composed of quartz have a specific gravity between 2.65 to 2.67. While inorganic clays generally range from 2.70 to 2.80. Soils with large amounts of organic matter or porous particles have specific gravity below 2.60 (Some range as low as 2.00).

Sources of sand

Sand is world's second most consumed natural resource after water. Rapid urbanization and global population growth have created unbound demand for this limited natural resource. With urbanization as key driving factor, construction industry has expanded considerably over the last few decades leading to overuse of river sand for construction purposes. This increasing discrepancy between the need for aggregates in the society and scarcity of natural sand due to exhaustion of resources and environmental considerations, has urged concrete manufacturers to look for a suitable and sustainable alternative fine aggregate. The economical and ecological alternative is manufactured sand.

Natural Sources

Natural sand is produced by natural forces, such as river sand and sea sand. Generally, sand found at foot of mountains is more weathered, containing more mud, organic impurities and light substances. Sea sand often contains shells and other impurities, and its components such as the chlorine, sulfate and magnesium salts may cause corrosion of steel bars. All the components will affect the performance of concrete. Sources of sand can be river bed material, de-siltation pits in reservoirs/dams, agricultural land etc. these can be broadly classifies as:

Following are the natural types of the sand:

- **Pit Sand**

This sand is found as deposits in soil and it is obtained by forming pits into soils. It is excavated from a depth of about 1 m to 2 m from ground level. The pit sand consists of sharp angular grains which are free from salts and it proves to be excellent material for mortar or concrete work. For making mortar, the clean pit sand free from organic matter and clay should only be used.

- **River Sand**

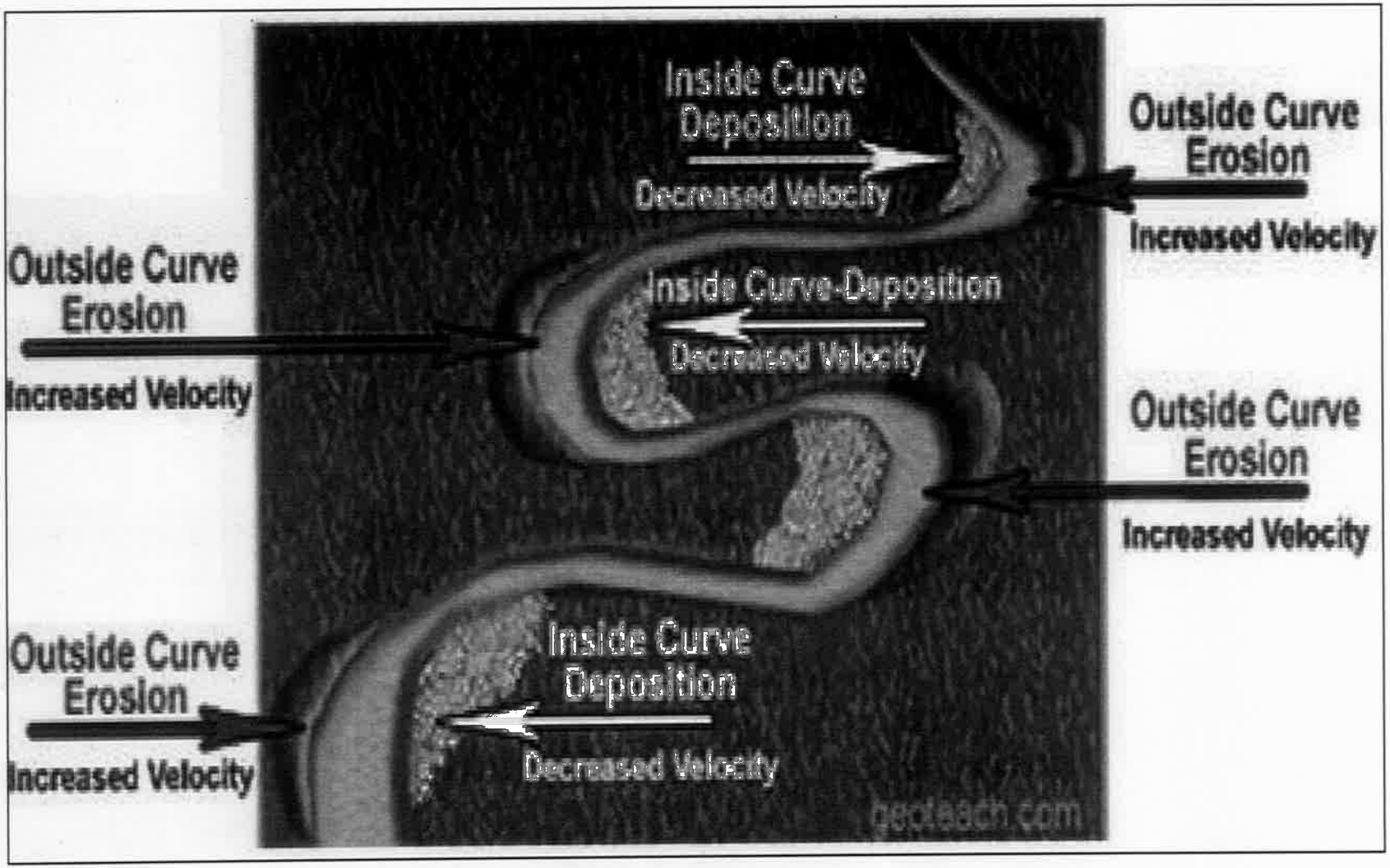
This sand is obtained from banks or beds of rivers. The river sand consists of fine rounded grains probably due to mutual attrition under the action of water current. The colour of river sand is almost white. As river sand is usually available in clean condition, it is widely used for all purposes.

- **Sea Sand**

This sand is obtained from sea shores. The sea sand, like river sand, consists of fine rounded grains. The colour of sea sand is light brown. The sea sand contains salts. These salts attract moisture from the atmosphere. Such absorption causes dampness, efflorescence and disintegration of work. The sea sand also retards the setting action of cement. Due to all such reasons, it is the general rule to avoid the use of sea sand for engineering purposes except for filling of basement, etc. It can however be used as a local material after being thoroughly washed to remove the salt.

Manufactured Sand

Manufactured sand (M-Sand) is artificial sand produced from crushing hard stones into small sand sized angular shaped particles (rock particles with a particle size of less than 4.75 mm and is made by artificial crushing and sieving after soil removal treatment), washed and finely graded to be used as construction aggregate. It is a superior alternative to River Sand for construction purpose. The main technical indicators of artificial sand are particle gradation, fineness modulus, stone powder content, void ratio, apparent density, bulk density, methylene blue value (MB), crushing value index, mica content, light-matter content, etc.



Conducive Areas for sand deposition

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Sand Mining

Sand Mining is an activity referring to the process of the removal of sand from rivers, streams and lakes.

- Sand is mined from beaches and dredged from river beds.
- There are no official figures for the amount of sand mined illegally, but in 2015-16, there were over 19,000 cases of illegal mining of minor minerals, which include sand, in the country.
- To stop illegal mining, the Ministry of Environment, Forest and Climate Change (MoEF) issued Enforcement and Monitoring Guidelines for Sand mining.
- These guidelines focus on the effective monitoring of the sand mining.

Following considerations shall be kept in mind for sand mining:

- Parts of the river reach that experience deposition or aggradations shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations problem.
- Sand and gravel may be extracted across the entire active channel during the dry season.
- Abandoned stream channels on the terrace and inactive floodplains are to be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- Layers of sand which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- Sand shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- Sand and gravel shall not be extracted up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a

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minimum of 250 meters on the upstream side and 500 meters on the downstream side.

- Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
- The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, and this sandy-gravelly track constitute excellent conduits and hold the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
- Mining depth should be restricted to 3 meters and distance from the bank should be ¼thor river width and should not be less than 7.5 meters.
- Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
- A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
- River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

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- The mining from the area outside river bed shall be permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed Three-meter (3 m) at any point in time.
- The permanent boundary pillars need to be erected after identification of an area of aggradations and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.

General Profile of the District

Geographical Information:

Geography & Climate	
Latitude	$76^0 30''$ से $78^0 33''$
Longitude	$25^0 17''$ से $26^0 52''$
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

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जिला कार्यालय (खनिज शाखा) मुरैना

Land utilization Pattern in the District: Forest, Agricultural, Mining, etc.,

FOREST:

The forest are mostly tropical dry deciduous type Kardhai (Anogeissus pendula) is most important species. The quality of Kardhai depends on the depth, drainage, rainfall, etc. But most important factors is altitude and moisture contents of the soil. Kardhai occurs almost pure on the flat areas, on the higher altitude Kardhai is noticed on slopes having cooler aspect. Other common tree species noticed are salai (Boswellia serrata) dhooda, khair (Alacia Catechu), tendu, krir dhudhi, medha-singh (Dolichandron faleata), arjun, kulhu (stereulia urens), kusum, kasai, kari (miliusa tomentosa) semal (salmalia mala-barica) aonla, kala siris (Albizzia lebbek), safed siris (Albizzia Procers), palas (Butea monosperma), haldu, spisham (Dalbergio latifelia), padar, raj etc. The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor. The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jorra CD blocks. The forests are dry and autumnal. Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) 564, wild boar 112, jackal 1072, hyenas 74, peacocks 72,152, rabbits 107, foxes 171, syah 61, wolves 35, spotted deer's 12, deer's 471 and bears 27 are the wild life found. The district has black buck, cheetal, nilgai, sambhar, etc in the forest. The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The other common dear species is barking deer (mantiacus muntejak). They are found in thick forest and come out to graze in open areas, Chinkara and black buck are ANALYTICAL NOTE DISTRICT CENSUS HANDBOOK : MORENA 5 very active animals. The black faced monkey (presliytic entallus) is seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). Grey jungle and jungle fowls are also be seen. The common snakes in the district are cobra, craite, python etc.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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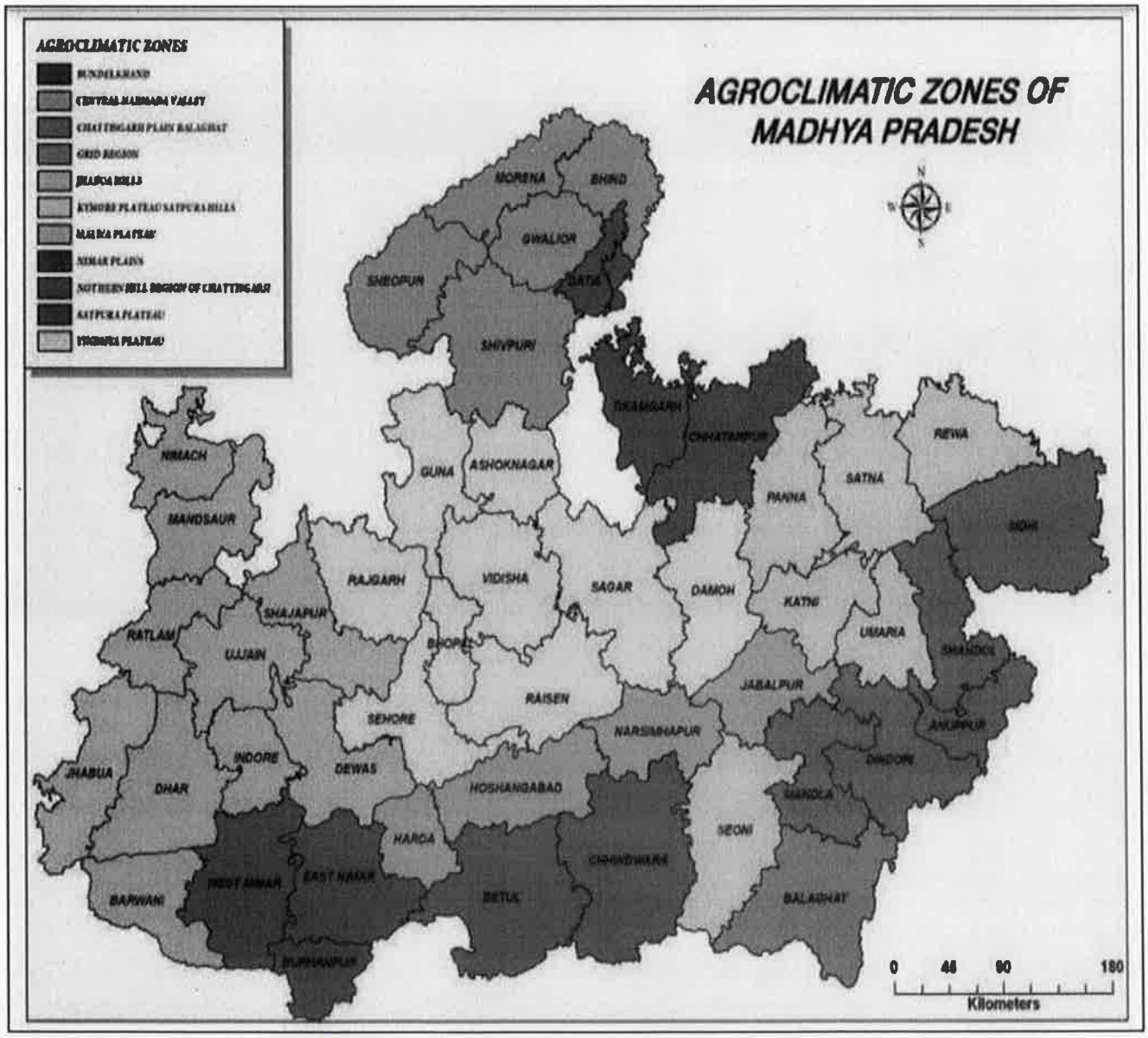
AGRICULTURE:

The soil of the district is alluvial. The level of the river banks land are also alluvial. The economy of the district is mainly based on agriculture. More than 50% land is under cultivation. The double crops i.e. Rabi and Kharif crops are wholly sown in the district. Under kharif crops jawar, bajra, rice, tuar, urad and moong are sown and under Rabi crops wheat, gram and mustard are sown. Mustard is sown in the largest area of the district. Main crops according to use of area is mustard 174,982 hect., wheat 81,506 hect, gram 12,704 hect, vegetables 608 hect's and spices in 239 hect.



MINING:

Morena district holds a distinct place in the state with respect to sand stone mining .
In the district mainly sand stone, clay, gitti, murum and sand are found.
Morena distt sand deposites in the Chambal river century which is probited for the sand mining.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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जिला कार्यालय (खनिज शाखा) मुरैना

Physiography of the District

Morena district is extended in the north 250 17' to 260 52' latitudes and 760 30' to 780 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Details of Month wise Rainfall data of 1year

Tehsil/ Month	PORSA	AMBAH	MORENA	JOURA	KAILARAS	SABALGRAH
Jan	2.0	3.0	3.0	2.0	7.0	3.0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	8.0	5.0	10.2	18.0	12.0	3.0
jun	23.0	13.0	27.0	14.0	42.0	67.0
jul	152.0	108.0	256.2	181.0	188.0	232.0
Aug	205.0	197.0	198.8	163.0	177.0	365.0
Sep	335.0	165.0	92.8	155.0	141.0	225.0
Oct	40.0	49.0	30.4	30.0	17.0	34.0
Nov	0	0	1.0	0	4.0	3.0
Dec	2.0	7.0	6.0	4.0	9.0	12.0

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जिला कार्यालय (खनिज शाखा) मुरैना

Rainfall of the District and Climate Conditions

Rainfall

Morena has a cool and dry climate .The hot weather starts from about the middle of April and lasts up to mid of May. The temperature in June touches 47 degree Celsius. By the end of June or by the 1st week of July, the monsoon breaks and the weather becomes cool, through humid. The district receives its rains from the Arabian Sea. The rains are over generally by end of September. Morena receives on an average 530 mm of rain.

Climatic Conditions

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 44.0 celsius. In cold season the district has freezing cold and temperature drops to 2.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September.

The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor.

The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jaura CD blocks. The forests are dry and autumnal Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) , wild boar , jackal , hyenas , peacocks , rabbits , foxes , porcupine, wolves , spotted deers and deers and are the wild life found.The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The black faced monkey (presliytic entallus) are seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). The common snakes in the district are cobra, craite, python etc.

Geology of the District

Vindhyan Super group of rocks of Meso to Neo-Proterozoic age, Laterites of Cainozoic age and Quaternary Alluvium are the rock types exposed in the area, The Vindhyan Supergroup in the area is represented by Kaimur, Rewa and Bhander Group of rocks. Kaimur in the area is represented Dudauni Sandstone. The rock is white to dirty white in colour, fine to medium grained, thinly to thickly bedded with interbands of siltstone at places. The rock is fine grained, thickly bedded and massive towards the top. The Rewa Group is represented by Jhiri Shales and Upper Rewa Sandstone. Jhiri Shale conformably overlies the Dudauni Sandstone with a sharp contact. The shale is predominantly argillaceous in nature and olive green to khaki, grey, chocolate brown to reddish brown, splintery and thinly bedded with minor interbands of siltstone containing numerous veins of calcite. The Upper Rewa Sandstone is represented by light grey to greenish grey, brown, pink, white to dirty white, fine to medium grained and moderately sorted glauconitic sandstone. The rock is quartzitic and flaggy to thickly bedded in nature, The Bhander Group, which overlies the Rewas with a gradational contact, is represented by Ganurgarh Shale, Lower Bhander Limestone, Lower Bhander Sandstone and Sirbu Shales. Ganurgarh Shale is the lower most formation of Bhander Group of rocks and is represented by greyish green, reddish brown to dark brown, purple coloured shale. The rock is friable, splintery to thinly laminated in nature. It is generally ferruginous, at places arenaceous and calcareous towards the top. It shows intercalations of limestone at places. Ganurgarh Shale is overlain by the Lower Bhander Limestone. Being an almost persistent horizon, the limestone forms good marker horizon. It is marked by occasional presence of intraformational breccia at the base. This limestone is typical ash grey in colour, fine grained, thinly to thickly bedded and shows elephant skin weathering and breaks along the conchoidal fractures. Overlying the Lower Bhander Limestone, the Lower Bhander Sandstone is exposed in the western part of the area. It is dirty white, pinkish to light brown colour, fine to medium grained, quartzitic and thinly to thickly bedded. Cross bedding of tabular and trough type are common in this rock. The overlying Sirbu Shale is greenish to greenish blue, pale grey, purple, red and brown in colour with thin interbands of siltstone at places. The shale generally thinly bedded and splintery.

Laterite forms flat and slightly undulatory capping over the rocks of Vindhyan Supergroup. It occurs at two elevations between altitudes of 425 m to 530 m above m.s.l. It is dark reddish brown and red in colour and mainly consists of Haematite, Goethite, gibbsite, few opaques and quartz. Quaternary Alluvium consisting of unconsolidated to consolidated yellowish brown sand, silt and clay with gravel and pebbles forms the youngest formation exposed in the area. The thickness of the alluvium varies from a meter to more than 15m. The area exhibits good development of sedimentary structures viz, current bedding, ripple marks, rain prints, rib and furrow structures, ball and pillow structures, mud cracks, clay balls, concretion, load and flute structures etc. The general strike of the bedding is N-S to NNE-SSW with varying dips of 4 to 10° towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW- SE, NE-SW, E-w and NNE-SSW with vertical dips.

जिला कार्यालय (खनिज शाखा) मुरैना

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STRATIGRAPHIC STATUS

LITHOLOGY	*STRATIGRAPHIC STATUS*		*NATURE AND CHARACTERISTICS*
Alluvium	*Quaternary*		*Unconsolidated, semi consolidated and consolidated, grey to yellowish brown sand, silt and clay with gravel and pebble*
Laterite	*Cainozoic*		*Dark reddish brown and red in color, consists of limonite, goethite, gibbsite some opaque minerals and a few quartz Grains*
Sirbu Shale	*BHANDER GROUP*	***VINDHYAN SUPERGROUP***	*Greenish to greenish blue, pale grey, purple red and brown in color, thinly bedded, splintery, with interbands of Siltstone at places*
Lower Bhander Sandstone			*Dirty white, pinkish to light brown in colour, fine to medium grained, quartzitic, thinly to thickly bedded, cross bedding of both tabular and trough type present*
Lower Bhander limestone			*Ash grey in colour, fine grained, thinly to thickly bedded, shows elephant skin weathering and brakes along the concoïdal fractures*
Ganurgarh Shale			*Greyish green, reddish brown to dark brown, and purple coloured, friable, splintery to thinly laminated, generally ferruginous, at places arenaceous and calcareous towards the top*
Upper Rewa Sandstone	*REWA GROUP*		*Light grey to greenish grey, brown, pink, white to dirty white in colour, fine to medium grained, moderately sorted, quartzitic, flaggy to thickly bedded and Glauconitic; shows intercalations of shale*
Jhiri shale			*Olive green to khaki, grey, chocolate brown to reddish brown in colour, splintery and thinly bedded with minor interbands of siltstone with calcite veins*
Dudauni Shale	*KAIMUR GROUP*		*White to dirty white, fine to medium grained, thick bedded and massive toward top.*

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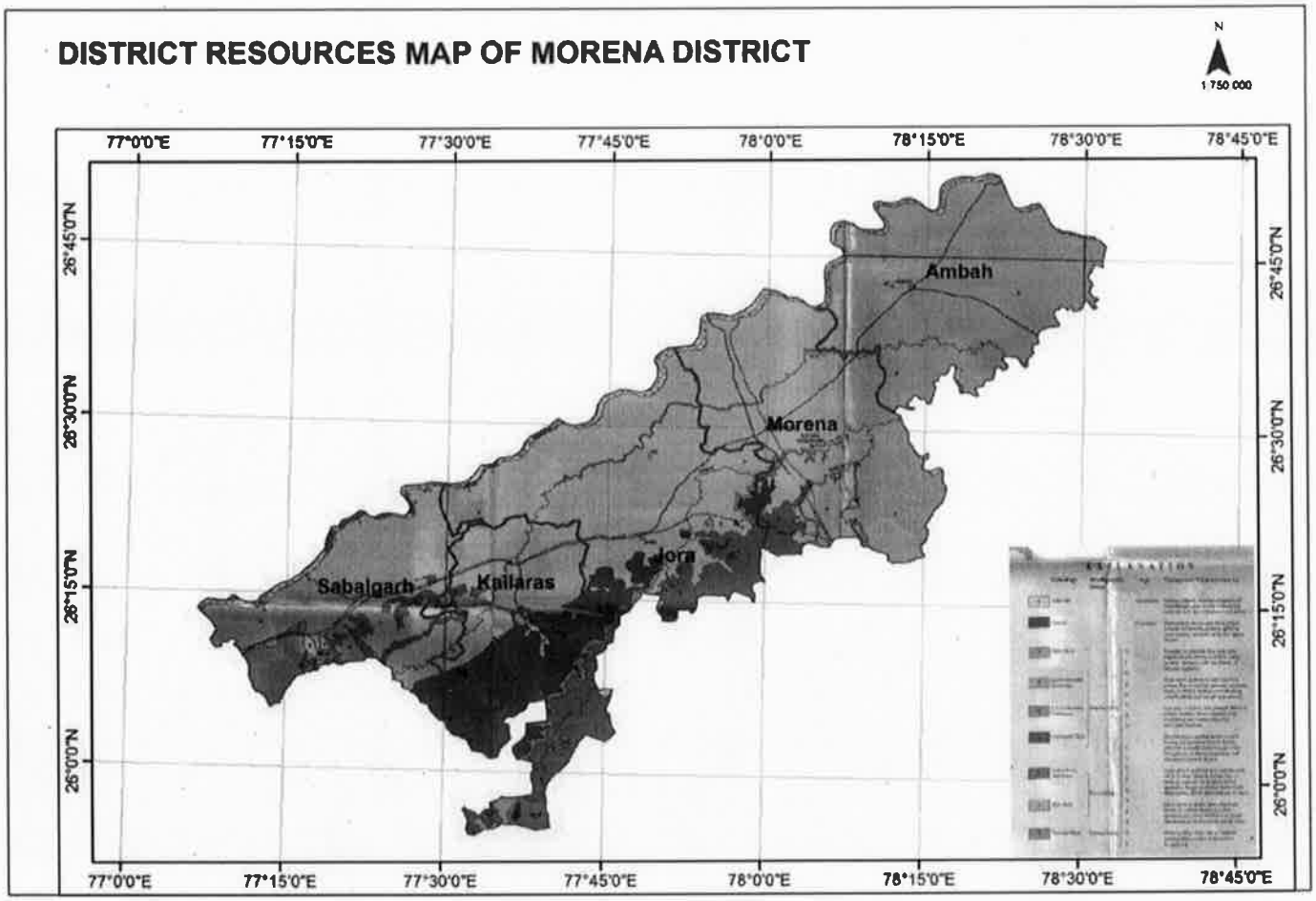
जिला कार्यालय (खनिज शाखा) मुरैना

Geological Map of the District



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जिला कार्यालय (खनिज शाखा) मुरैना

DRAINAGE

The district falls in drainage area of Ganges system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river :

This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river

This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river

The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Irrigation Practices

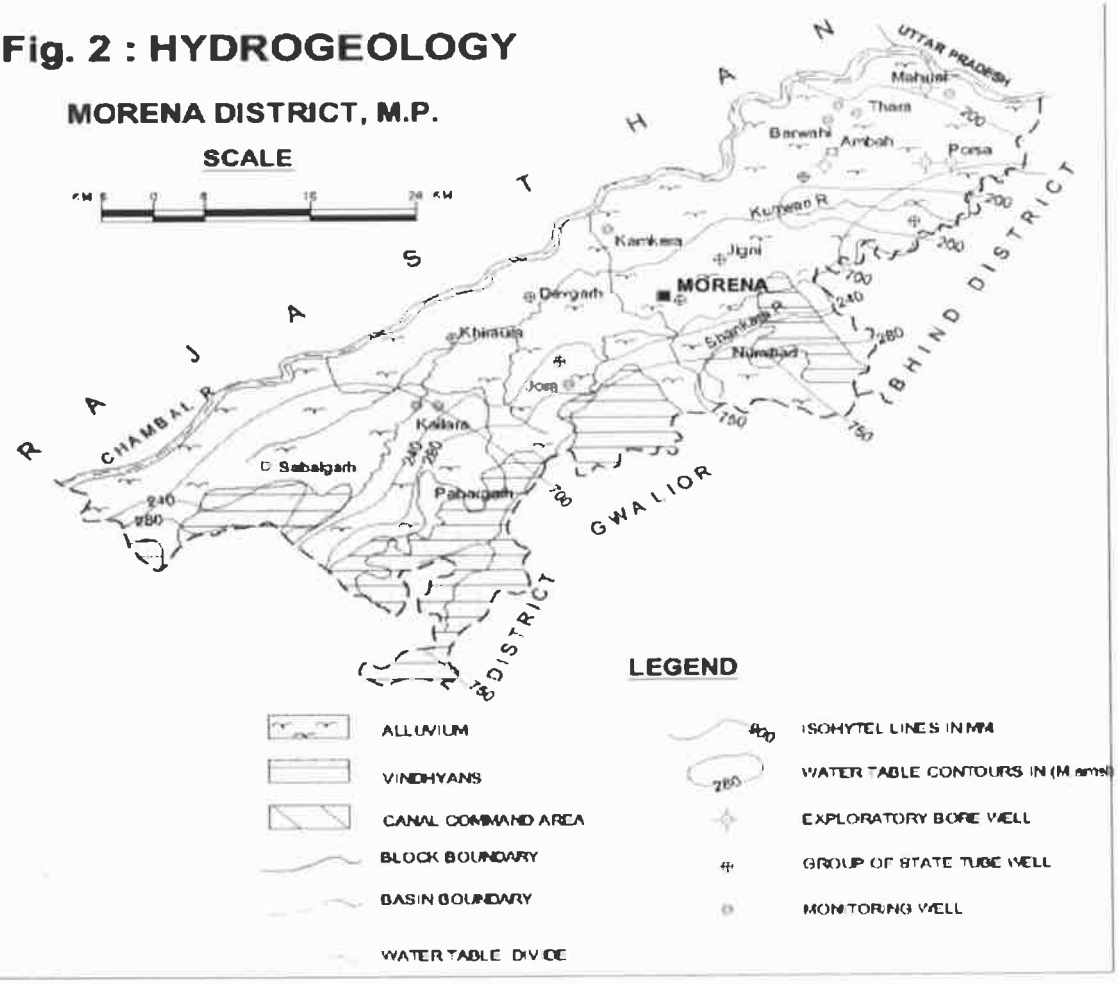
Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels.

Surface Water and Ground water scenario of the District

Ground Water SCENARIO

Hydrogeology The hydrogeological map of the district is presented as figure 2.

Fig. 2 : HYDROGEOLOGY



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and 3 pillow structures, mud cracks, clay balls, concretions, load and flute structures etc. The general strike of the bedding is North-South to NNE-SSW with varying dips of 4 to 10 degrees towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW-SE, NE-SW, E-Wand NNE-SSW with vertical dips. (GSI) The sandstones are hard and compact with siliceous matrix and as such are devoid of primary porosity and permeability. But wherever they are weathered and jointed secondary porosity and permeability is developed and made them water bearing. It is observed that sandstones in general are poorly and moderately weathered (2 to 4 metres) and at places they are jointed and do not posses sufficient ground water potential. Ground water occurs under water table condition and exists in weathered portions and in jointed zones. The shales are fine grinded and compact and are porous but are not permeable. At most places in most of the area shales are devoid of ground water but near river beds they form water bearing due to the presence of bedding planes and joints. Ground water occurs under water table conditions. The water holding capacity in alluvium mainly depends upon the thickness and the aerial extent. It is found that along the

banks of Chambal and Kanwari rivers, gully erosion is very common and spread over 1 to 2 Km away from the banks. It is more clayey and silty and as such has poor to moderate water bearing capacity. One or two aquifers are present in the formation and ground water is found to be under phreatic as well as semi confined to confined conditions. Central Ground Water Board had constructed 11 exploratory wells and 8 observation wells in the area. The details of aquifer zones, discharge, water levels and aquifer parameters etc., are given in Table 1. It is observed that Alluvium forms prolific aquifer whereas Vindhyans forms poor aquifer in the district.

4.1.1 Water levels

Water level data, including historical data, are essential not only to know the present ground water conditions but also for forecasting future trends in response to ground water reservoir operations. CGWB is monitoring 17 NHS wells in the district. Pre and Post monsoon depth to water level maps are prepared and presented (Fig 3 &4) 4.1.1.1 Pre- monsoon (May, 2012) Pre monsoon depth to water levels map is presented as figure 3. A perusal of map reveals that the depth to water level ranges from less than 5.6mbgl to 31.78 mbgl in the district. However, in major part the DTW is less than 28 mbgl. DTW of more than 30 mbgl was observed in an isolated patch in north eastern par

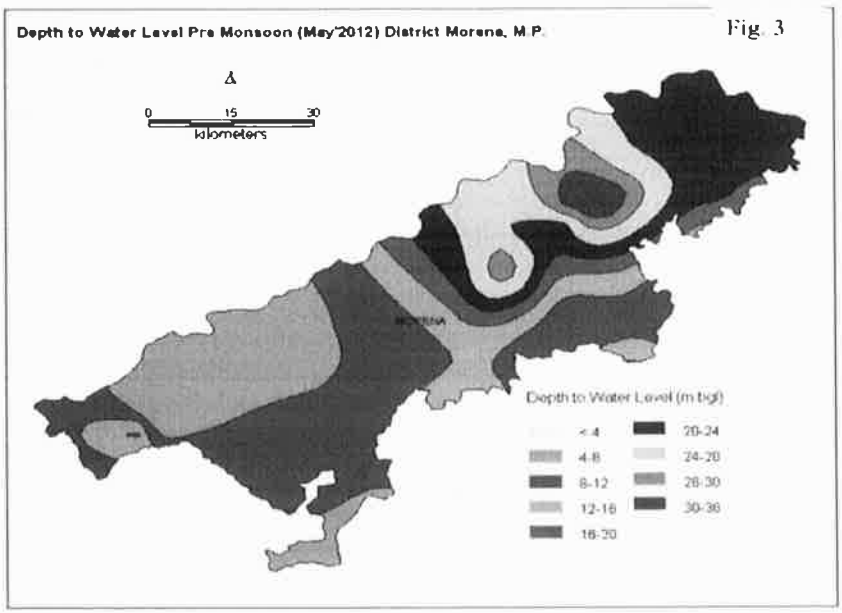


Fig. 3

जिला कार्यालय (खनिज शाखा) मुरैना

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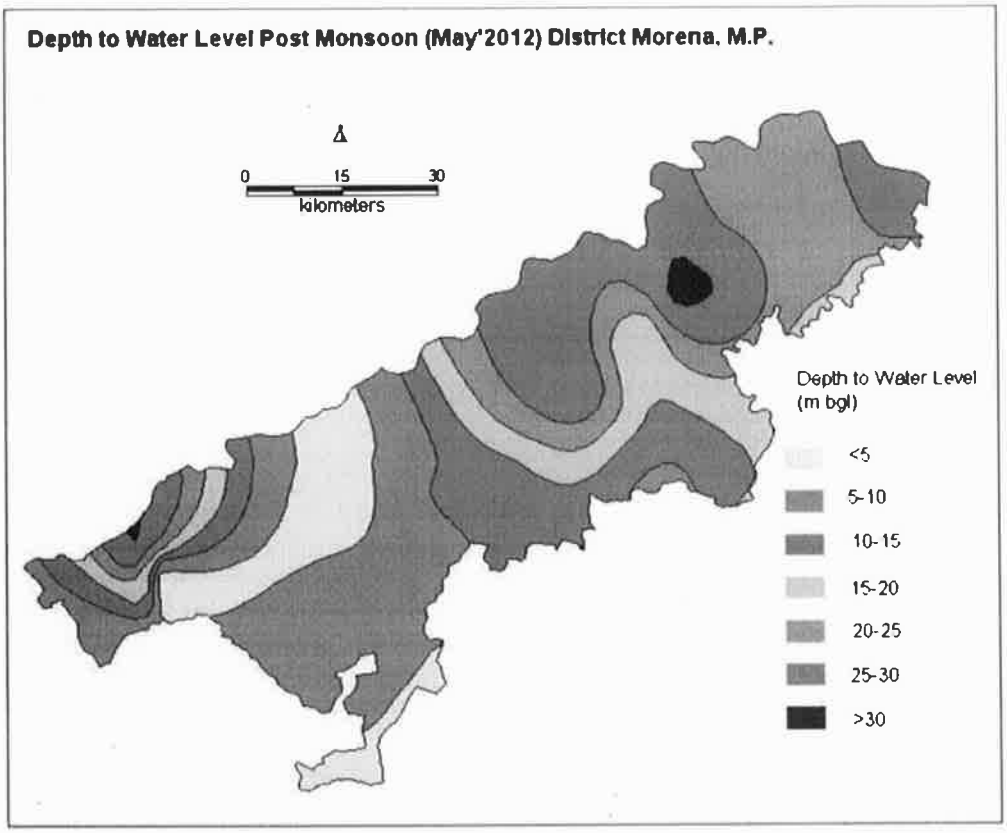
Post- monsoon (Nov. 2012)

Post monsoon depth to water level map is presented as figure 4. during post monsoon period, water levels ranges from 1.60 mbgl to 31.78 mbgl. However, in major part the depth to water level is less than 30 mbgl. Deeper water level of more than 30 mbgl is observed in two small isolated patches one each in western part and in north easten part. Long term water level trend for 10 years (2003-10) shows that there is overall decline in the area. The decline ranges from 0.61 cm/year to 106 cm/year.



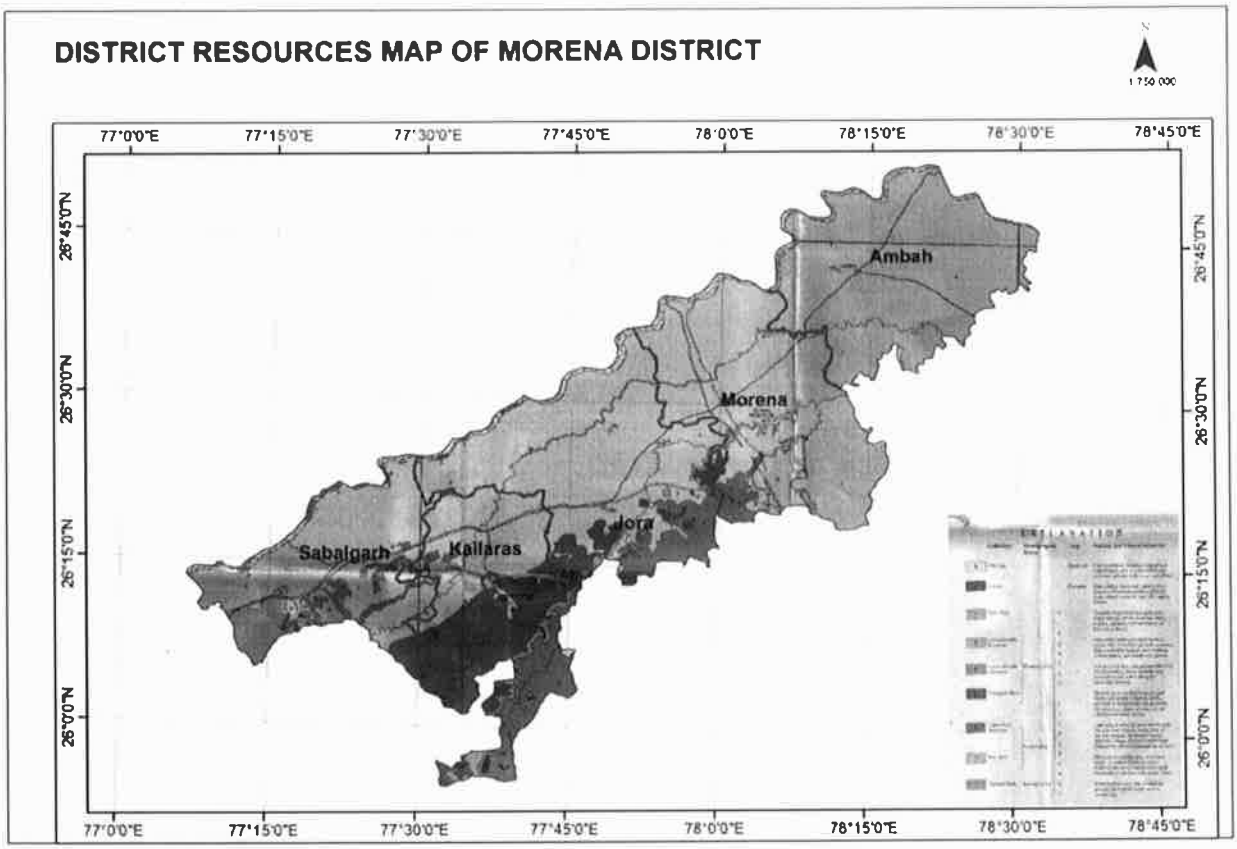
4.2 Ground Water Resources (2009)

Morena district is characterized by alluvial formation, Vindhyan Formation and Gwalior Series. Dynamic ground water resources of the district have been estimated for base year -2008/09 on block-wise basis (Table 2). There are seven assessment units (block) in the district which fall under command (48 %) and non-command (52 %) sub units. Non command areas of Kailaras , Morena and Sabalgarh blocks of the district are categorized as semi critical . The highest stage of ground water development is computed as 74 % in Morena block. The net ground water availability in the district 64,244 ham and ground water draft for all uses is 27,597 ham, making stage of ground water development 43% as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 34,232 ham.

4.3 Ground Water Quality

Ground water quality in Morena district is assessed annually by CGWB on the basis of analysis of ground water samples collected from hydrograph stations located in the district. The Electrical conductivity ranges from 550 to 2080 µS/ cm at 25°C. The Fluoride is within permissible limits and ranges from 0.06 mg/l to 1.4 mg/l. The Nitrate ranges from 2.5 mg/l to 298 mg/l.

Mineral Map of the District



जिला कार्यालय (खनिज शाखा) मुरैना

State Level Environment Impact Assessment Authority, M.P.
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Total Mineral Reserve available in the District

Total mineral reserve available in the district

S. no.	Mineral Name	Total Mineral Reserve
1.	Crusher gitti	5494402 Cu. M.
2.	Flagstone	310575 Cu. M.
3.	Murrum	260125 Cu. M.
4.	Clay For Bricks	567000 Cu. M.
5.	Khanda	226807 Cu. M.
6.	Boulder	19726 Cu. M.

Quality/Grade of Mineral available in the District

There is quality of mineral available as a minor grade is present in the Morena District. As we have assessed mineral availability of the district is fare and acceptable quality and it has commercial value. There are various minerals and ore available in the district as it is given in our next chapter

जिला कार्यालय (खनिज शाखा) मुरैना

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Demand and supply of the Mineral In last three Year

Minerals Name	Year wise Supply according to Demand			Remark
	2018-19	2019-20	2020-21	
				MinorMineral
Flag stone	37240	34922	39395	Mainly it is used for Construction purpose. Flagstone supply is on the basis of demand on the market
Khanda	18890	9896	14061	
Boulder	0	2700	45500	
Murum	3754	28275	40533	It is a mixture of minerals, organic matters, gravels, rock particles etc. Murrum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.
Stone/Gitti	239462	400108	973864	minor mineral such as stone /Gitti , sand are supply basis of demand on the market
Sand	0	0	0	

जिला कार्यालय (खनिज शाखा) मुरैना

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Details ofEco– Sensitive Area,

This Sanctuary was established in 1978 and is spread across an area of 435 sq km. The National Chambal Sanctuary is famous for the rare gangetic dolphin. Apart from which, the other inhabitants of the sanctuary include magar (crocodile) and gharial (alligator), chinkara, sambar, nilgai, wolf and wild boar. As the Sanctuary is basically situated in the river, fairs are organised on every religious occasion, such as Somvati Amavasaya, Lunar Eclipse Solar Eclipse, Ganga Dashhara etc. The fairs are organised at different Ghats of the river Chambal, Fort of Ater, Fort of Pinahat, Padhawali Archeological spot of Kuntalpur, Kakanmath temple. Other destinations close to the Sanctuary are Agra, Gwalior, Kakanmath temple, Bird Sanctuary Bharatpur, etc. Forest rest houses are available for accommodation at Etawah, Bah, Baiwan, Chakar Nagar and Sarson.

जिला कार्यालय (खनिज शाखा) मुरैना

State Level Environment Impact Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

Impact on the Environment due to Mining Activity

Generally, the Environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project, secondary impacts are those, which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the baseline environmental status for the entire ROM which is proposed to exploit from the mines.

Air

Mining Operations are carried out by opencast semi mechanized/ Mechanized method, dust particles are generated due to various activities like, Excavation, Loading, handling of mineral and transportation. The air quality in the mining area depends upon the nature and concentration of emissions and meteorological conditions. The major air pollutants due to mining activity includes: -

- Particulate Matter (Dust) of various sizes.
- Gases, such as, Sulphur Dioxide, Oxides of Nitrogen, Carbon Monoxide etc., from vehicular exhaust.
- Dust is the single Air pollutant observed in the open cast mines. Diesel operating drilling machines, small amount of blasting and movement of machinery/ vehicles produce gaseous (NO_x and SO_x) emissions, usually at low levels. Dust can be of significant nuisance surrounding land users and potential health risk in some circumstances.

Water Impact

The mining operation leads to intersection of the water table which causes ground water depletion. Due to the interruption surface water sources like River, Nallah, Odai etc., surface water system, Drainage pattern of the area is altered.

Noise

Noise pollution is mainly due to operation of Machineries and occasional plying of machineries. These activities will create Noise pollution in the surrounding area.

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E-5

Land Environment

The topography of the area will change; due to the Topographical changes the entire Eco system will be altered.

Flora and Fauna

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics. Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and floral status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

Remedial Measure to mitigate the impact of Mining on the Environment:

Air

Mitigation measures suggested for air pollution controls are based on the baseline ambient air quality of the area

The following measures are proposed to be adopted in the mines such as,

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be considered.
- Transport of material in trucks covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine areas.
- Information on wind direction and meteorology will be considered while planning, so that pollutants, which cannot be fully suppressed by engineering technique, will be prevented from reaching the nearby agriculture area.
- Comprehensive green belt around overburden dumps has to be carried out to reduce to fugitive dust emissions in order to create clean and healthy environment.

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Water

- Construction of garland drains to divert surface run-off into the mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.

Noise

- Periodic maintenance of machinery, equipment shall be ensured to keep the noise generated at minimum.
- Development of thick green belt around mining area and haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities. Workers and operators at work site will be provided with earmuffs.
- Conducting periodical medical check-up of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise level effects.
- Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficiency of adopted control measures.
- During the blasting, optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate as approved by Director of Mines safety.

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Land Environment

- Riparian vegetation should be developed that doesn't stress with changes over short period of time.
- Safety barrier zone should be left out in order to prevent quick sand condition or rapid erosion of river banks.
- Development of suitable greenbelt in safety and barrier zone
- Waste dumps should be stabilized taking proper measures
- Degradation of land environment should be checked by briefing the worker about routine works regarding cleanliness and proper mining measures.
- No such infrastructure or any construction should be done that might hinder the natural flow of the river.

Biological Environment

- Development of gap filling saplings in the safety barrier left around the quarry area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy leaves on the inactive mined out upper benches.
- Development of dense poly-culture plantation using local flora species in the mining area at conceptual stage.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.
- Construction of garland drains and settling tank to arrest silt wash off from lease area.
- Construction of retention walls around lower boundary of mining area to arrest silt wash off and roll down boulders.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.

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Reclamation of Mined out area

There is no proposal for backfilling, reclamation and rehabilitation. The quarry pit should be fenced by barbed wire to prevent inherent entry of public and cattle. The quarried out pit will be allowed to collect rain and seepage water which act as a reservoir for storage. The Quarried pit may be used as water reservoir for both Domestic and Agriculture purpose, in case of stone mining and inland sand mining. For River sand mining, the quarry should be demarcated using pillars and left for replenishment during monsoon season. No mining should be undertaken during monsoon period to avoid accidents and mishaps.

Details of the area of where there is cluster of mining lease viz no. of mining lease location.

Details of the cluster of Mining Lease

S. No.	Tehsil	Name of the Lease	Khasra No	Area in ha.
----------NIL----------				

जिला कार्यालय (खनिज शाखा) मुरैना

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Sand Replenishment Plan and Projections

Sand Replenishment Assessment

The process of sand replenishment is highly dependent upon the rainfall received in the catchment areas of rivers and their tributaries and velocity of river. It is a dynamic process. Thus it is difficult to predict, what quantity of sand may be reclaimed/ replenished by river. Because, in case of less rain, less water in the river, there may be less erosion and transportation may also be minimal and as a result deposition too will be less. Moreover, in case of floods, the sudden gush of water may force the change in river course, thus old sites of sand deposition may not be relevant. Thus, the above figures may just be a mere prediction, based on the production in the preceding years. More so, practically, it is not possible that in such a short period, single person can visit each spot within the district and determine how much quantity of sand may be replenished every year. The data narrated in the report, regarding annual deposition of sand and associated aggregates and minable mineral potential is concerned, is only an estimation based on the production data provided by the district mining office. Thus, the figures may vary from area to area and year on year basis. Therefore, this document is not a static one but have to be a dynamic one, the figures of which may vary with respect to the area under question for which the prior environmental clearance will be sought.

In order to establish a safe extraction limit, such that the extracted sand gets replenished annually, a replenishment study is to be carried out. For this purpose, the river bed RL at selected points in the dry portion of riverbed will be measured during pre-monsoon period and again during post- monsoon period in order to assess the annual quantum of sand deposition. If it is observed that, there is an average increase in riverbed RL, it shows that it is due to deposition of sand during the monsoon flow of the river and by multiplying it with the area of lease one can measure the quantity of sand replenished every year. Sand quarrying from the river bed will have both positive and negative impacts.

NEGATIVE IMPACTS

It includes destruction of natural river course, sand erosion, bank erosion, bank cutting and widening and deepening of river bed, change in hydrological status and recharging conditions and destruction to closely linked flora, fauna and aquatic life.

POSITIVE IMPACTS

Employment and socio-economic status of the habitats living besides the river depends on sand mining industries. Construction of concrete infrastructure, roads and some other related activities depends on the river bed sand. Continuous accumulation of sand ultimately leads to the reduction in water carrying capacity of the river leading excessive flood in the river. Sustainable extraction of sand from river will lead to overcoming the problem.

Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.

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जिला कार्यालय (खनिज शाखा) मुरैना

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Need for Sand Replenishment Study and Factors tobe considered

Environmental status of the mined out area may be affected badly if proper care is not taken to ensure sustainable extraction of sand from river bed. Proper study of the following factors must be taken into consideration to reveal the actual potential of sand deposition in river course after completion of periodical excavation annually. The main factors to be considered for the study of the replenishment potential of particular river course are:

Formation of sand comprises of the following:

- Catchment area and geographical strata
- Erosion, weathering and transportation of load
- Climatic conditions, precipitation
- Geomorphology, physiographic manmade structures and activity details

Deposition/sedimentation of material or sediment yield depends upon several factors like:

- Catchment area
- Span of river/ flood plain
- Travelling distance of suspended particles
- Slope/gradient/ depth of water channel;/meandering of river
- Geology traversed
- Climatic conditions
- Tributaries/ confluence
- Type/ stage of river and flow velocity
- Flow during lean period

Risk Assessment & Disaster Management Plan:

The Disaster Management Plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/induction conducted by the respective department from time to time.

General Responsibilities during an Emergency

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

Co-ordination withLocal Authorities

The mine manager who is responsible for emergency will always keep a jeep ready at site. In case any eventualities the victim will be taken to the nearby hospitals after carrying out the first aid at site. A certified first aid certificate holder will be responsible tocarry out the first aid at site. The mine manager should collect and have adequate information of the nearby hospitals, fire station, police station, village Panchayat heads, taxi stands, medical shop, district revenue authorities etc., and use them efficiently during the case of emergency.

Disaster Management Plan

The objectives of DMP are to describe the company's emergency preparedness, organization, the resource availability and response actions applicable to deal with various types of situations that can occur at mines in shortest possible time.

Thus, the overall objectives of the emergency plan are summarized as: -

- Rapid control and containment of Hazardous situation
- Minimum the risk and impact of event/ accident
- Effective prevention of damage to property.
- In order to achieve effectively the objectives of emergency planning, the critical elements that form the backbone of Disaster Management Plan (DMP) are: -

- Reliable and early detection of an emergency and immediate careful planning.
- The command, co-ordination and response organization structure along with availability of efficient trained personnel.
- The availability of resources for handling emergencies.
- Appropriate emergency response action.
- Effective notification and communication facilities.
- Regular review and updating DMP.
- Training of the concerned personnel.
- Steps taken for minimizing the effects may include rescue operations, first aid, evacuation, rehabilitation and communicating promptly to people living nearby.

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of Mines, State Government.

Details of the Occupational Health issues in the District:

Open cast method involves dust generation by excavation, loading and transportation of mineral. At site, during excavation and loading activity, dust is main pollutant which affects the health of workers whereas environmental and climatic conditions also generate the health problems. Addressing the occupational health hazard means gaining an understanding of the source (its location and magnitude or concentration), identifying an exposure pathway (e.g., a means to get it in contact with someone), and determination of likely a receptor (someone receiving the stuff that is migrating).

Occupational hazard due to open cast mining mainly comes under the physical hazards. Possible physical hazards are as below: -

Physical Hazards due to Mining Operations:

Following health related hazards were identified in open cast mining operations to the workers:

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Light: - The workers may be exposed to the risk of poor illumination or excessive brightness.The effects are eye strain, headache, eye pain and lachrymation, congestion around the cornea and eye fatigue. In present case, the mining activity is done during day time only.

Heat and Humidity: - The most common physical hazard is heat. The direct effects of heat exposure are burns, heat exhaustion, heat stroke and heat cramps; the indirect effects are decreased efficiency, increased fatigue and enhanced accident rates. Heat and humidity are encountered in hot and humid condition when temperatures and air temperatures increase in summer time up to 46.10C or above in the river bed mining area.

Eye Irritation: - During the high windy days in summer the dust could be the problems for eyes like itching and watering of eyes.

Respiratory Problems: - Large amounts of dust in air can be a health hazard, exacerbating respiratory disorders such as asthma and irritating the lungs and bronchial passages.

Noise Induced Hearing Loss: - Machinery is the main source of noise pollution at the mine site.

Plantation and Green Belt Development in respect of lease granted in the District:

Mining activities result in pollution of the environment. This requires protection of our environment. Plantation is the oldest technology for the restoration of the land damaged by the human activities as well as air pollution.

Trees are highly suitable for the detection and monitoring of the air pollutants and have been effectively used at various places

By planting trees we can achieve the dual purpose of bio aesthetics as well as mitigation of pollution. Proper planning and plantation scheme depends upon the magnitude and type of pollution, selection of pollution tolerant and dust capturing plants

The plants should be ever green, large leaved, with rough bark, ecologically compatible, with low water requirement, requiring minimum care, capable to absorb pollutants, pollutant resistant, agro climatically suitable, fast growing, free from wind throw and breakage and with high pollution tolerance index. The specious should be suitable to the climate, topography and soil. A minimum two rows of plantation will be carried out to minimize the effect of pollution. This would attenuate the pollutants level.

However the afforestation should always be carried out in a systematic and scientific manner. It is proposed to carry the plantation along the river bank, both side of approach roads by considering 80% rate of survival. Trees like Karanj, Sheesham, Mango, Neem and some other varieties will be planted in consultant with forest department.

Recommended Plant species for green belt development/plantation

S.No.	Botanical Name	Family	Common Name
1.	Azadirachta indica	Meliaceae	Neem
2.	Ficus religiosa	Moraceae	Pipal
3.	Dalbargiasissoo	Fabaceae	Shisham
4.	Terminalia elliptica	Combretaceae	Saja
5.	Cassia Fistula	Caesalpiniaceae	Amaltas
6.	Sanegalia catechu	Mimosaceae	Khair
7.	Terminalia arjuna	Combretaceae	koha
8.	Bombax ceiba	Malvaceae	Semal
9.	Diospyros melanoxylon	Ebenaceae	Tendu
10.	Madhuca indica	Sapotaceae	Mahua
11.	Syzygium cumini	Myrtaceae	Jamun

Plantation has been done by project proponent on Barrier Zone, Non Mining Area, Approach road, nearby river bank and ravines etc. as per the suggestions of the authority.

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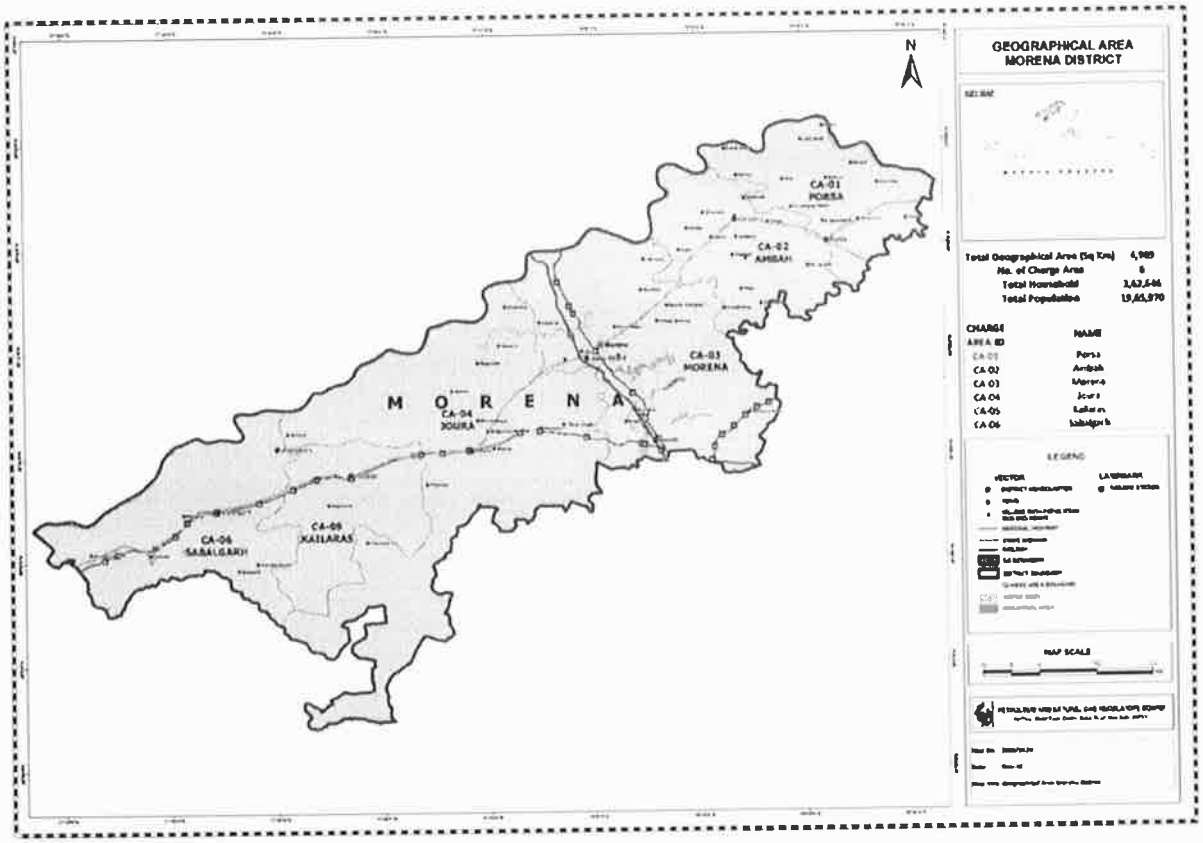
जिला कार्यालय (खनिज शाखा) मुरैना

D.S.R. RELATED MAP DISTRICT MORENA



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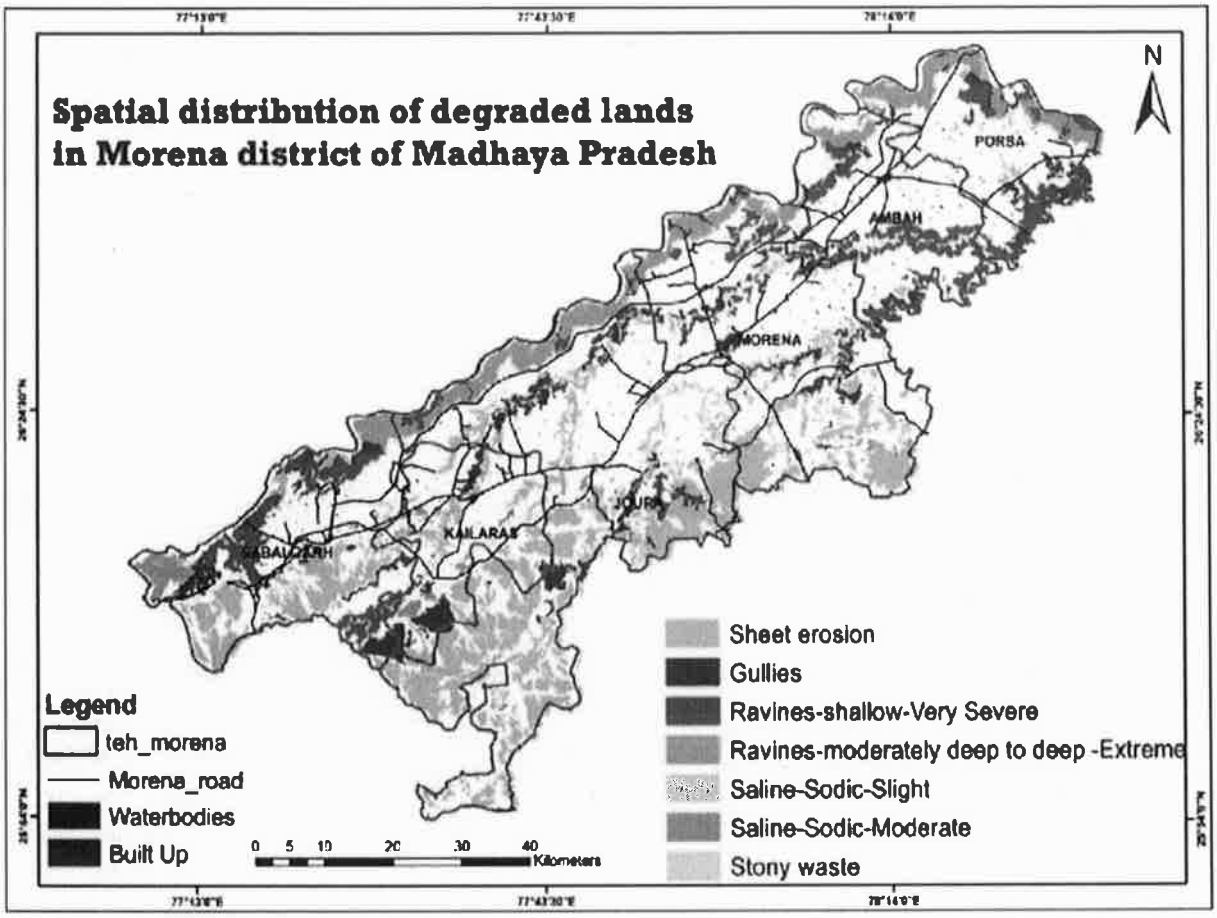
State Level Environment Impact Authority, M.P.



जिला कार्यालय (खनिज शाखा) मुरैना

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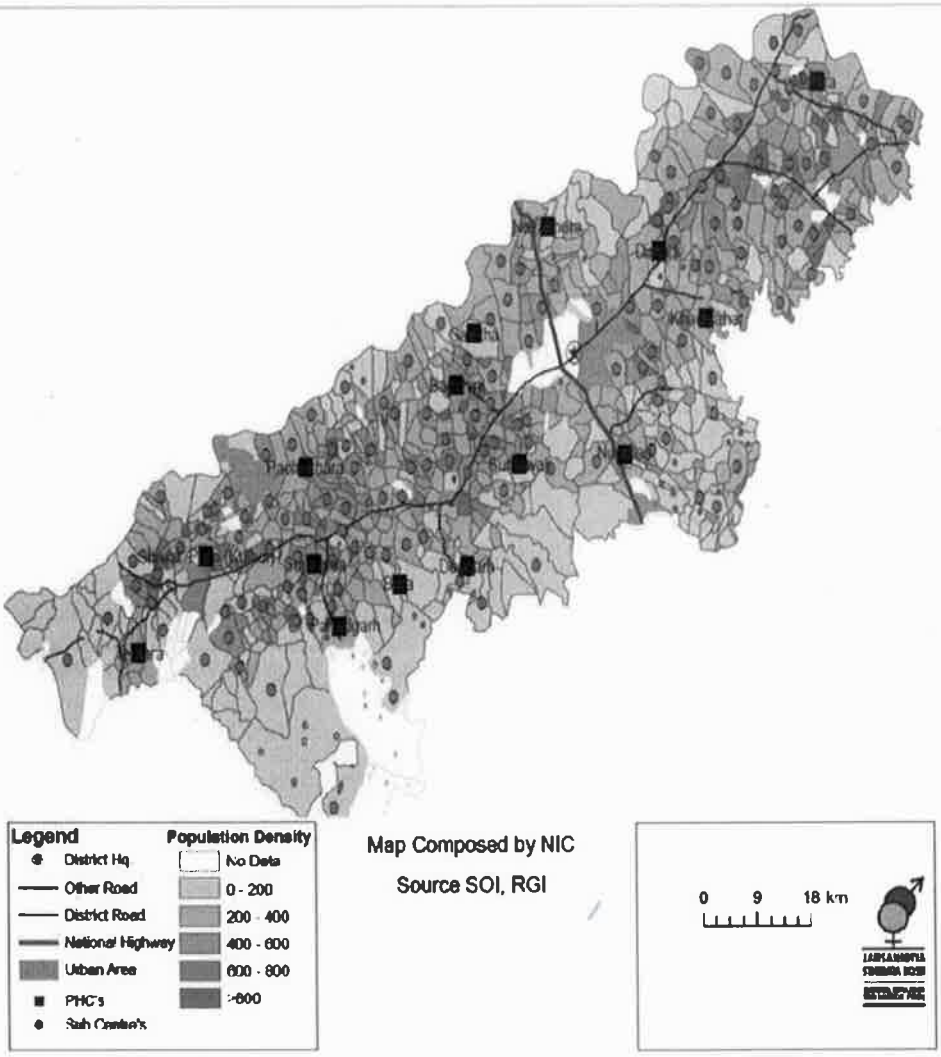

Map 8.1.6 showing population density, PHCs and Sub Centres in Morena, Blood bank is present in the District Headquarter shown above

जिला कार्यालय (खनिज शाखा) मुरैना

State Level Environment Impact Assessment Authority, M.P.
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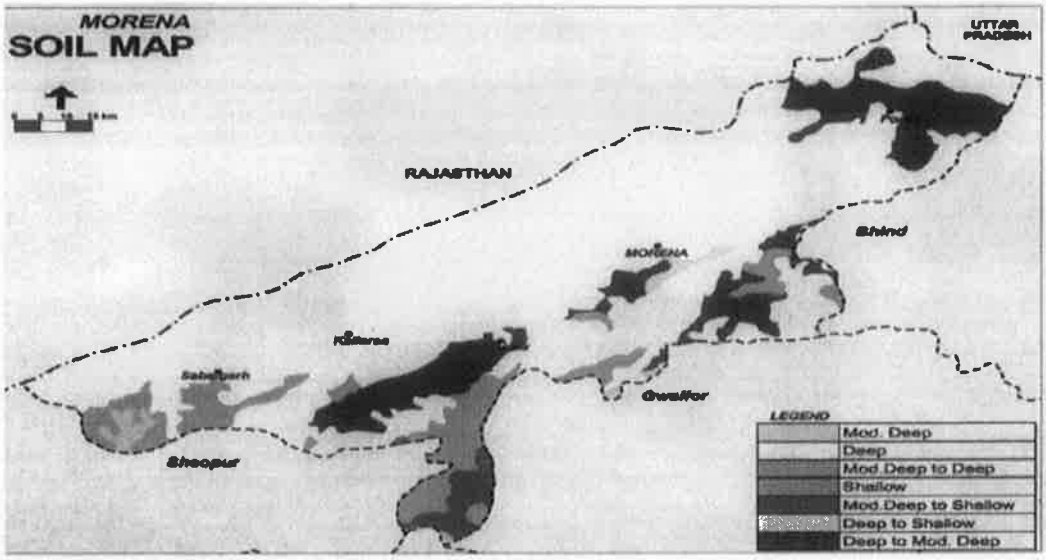
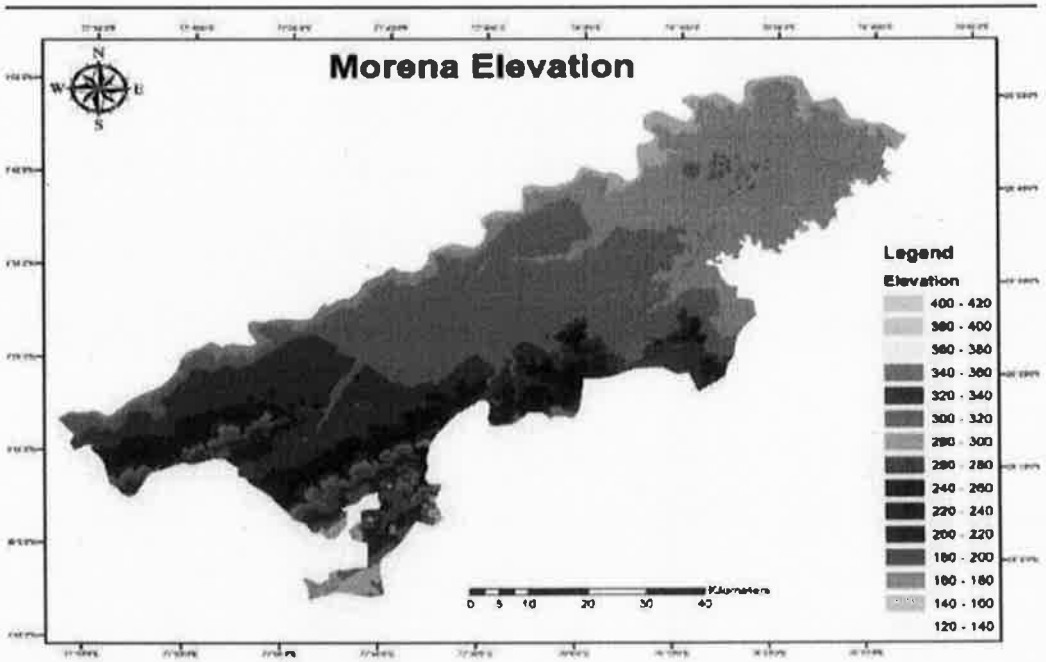


Map 8.1.4 Soil profile map of Morena



Map 8.1.5 Elevation map of Morena

जिला कार्यालय (खनिज शाखा) मुरैना

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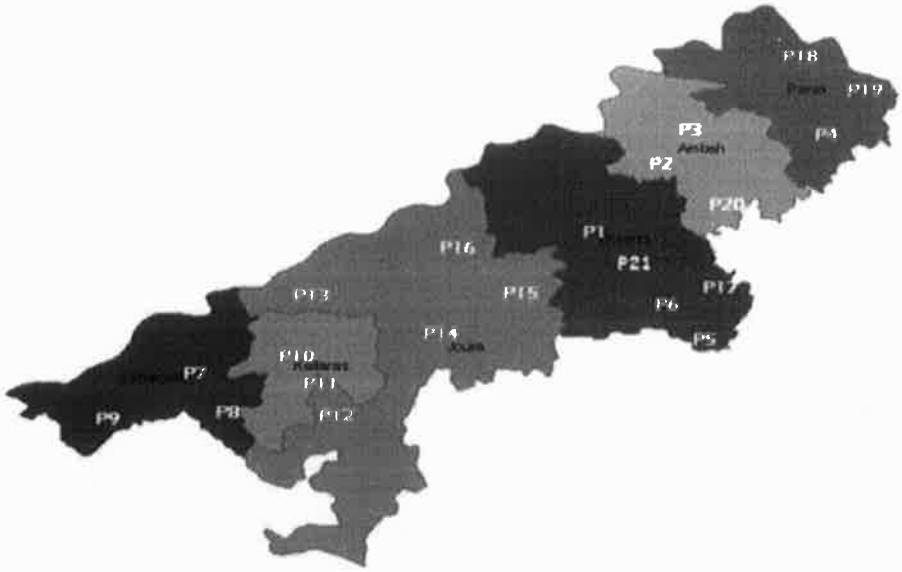


Legend

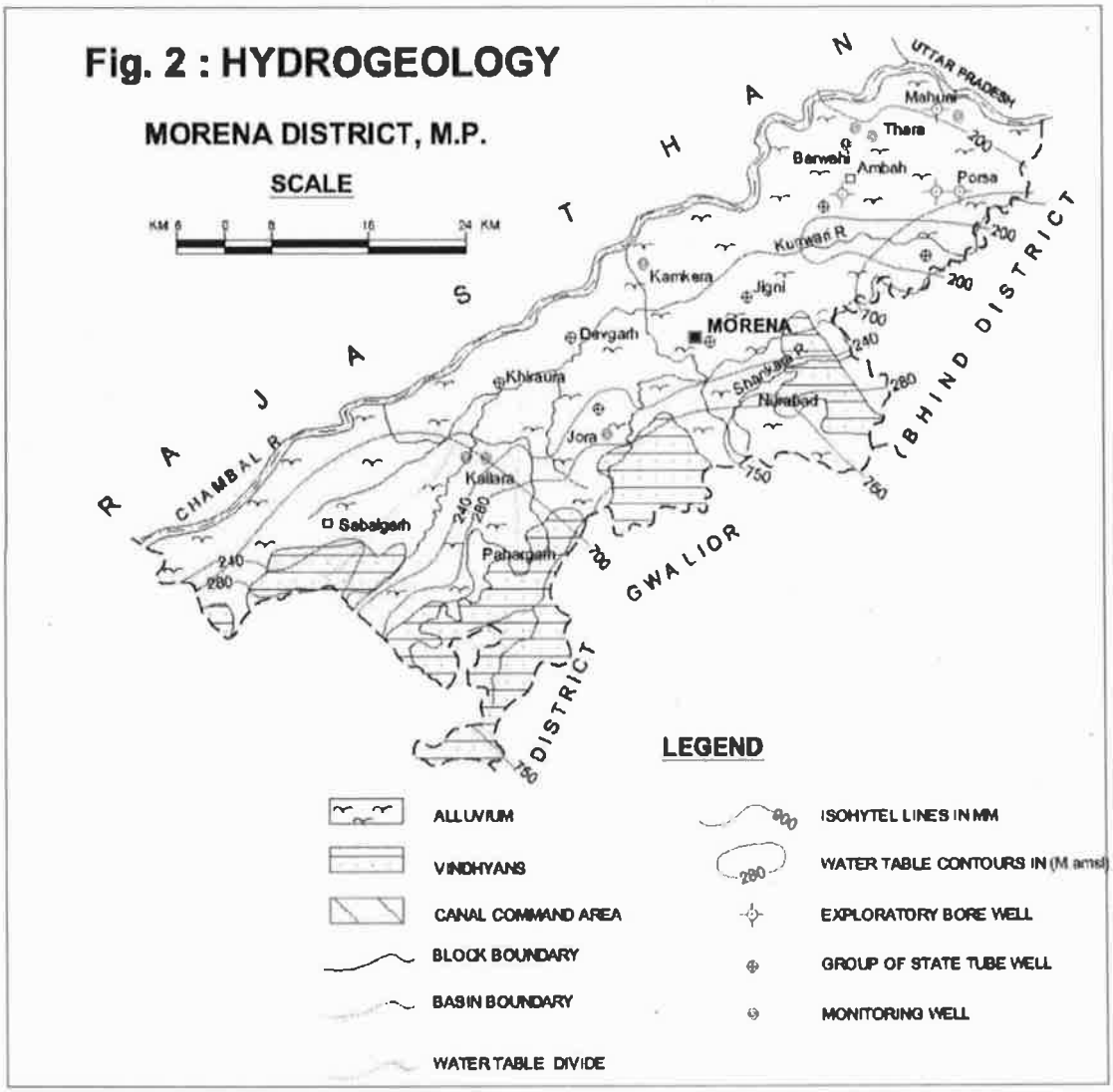
P1	Morena (Kotwali and Civil Lines)	P11	Nirar
		P12	Pahargarh
P2	Dimni	P13	Chimoni
P3	Ambah	P14	Joura
P4	Porsa	P15	Sumawali
P5	Banmore	P16	Bagchini
P6	Noorabad	P17	Rithora
P7	Sabalgarh	P18	Mahua
P8	Rampur	P19	Nagara
P9	Tentra	P20	Sithonia
P10	Kailaras	P21	Matabasoi

Map 8.1.7 Showing the Police Thanas in Morena district

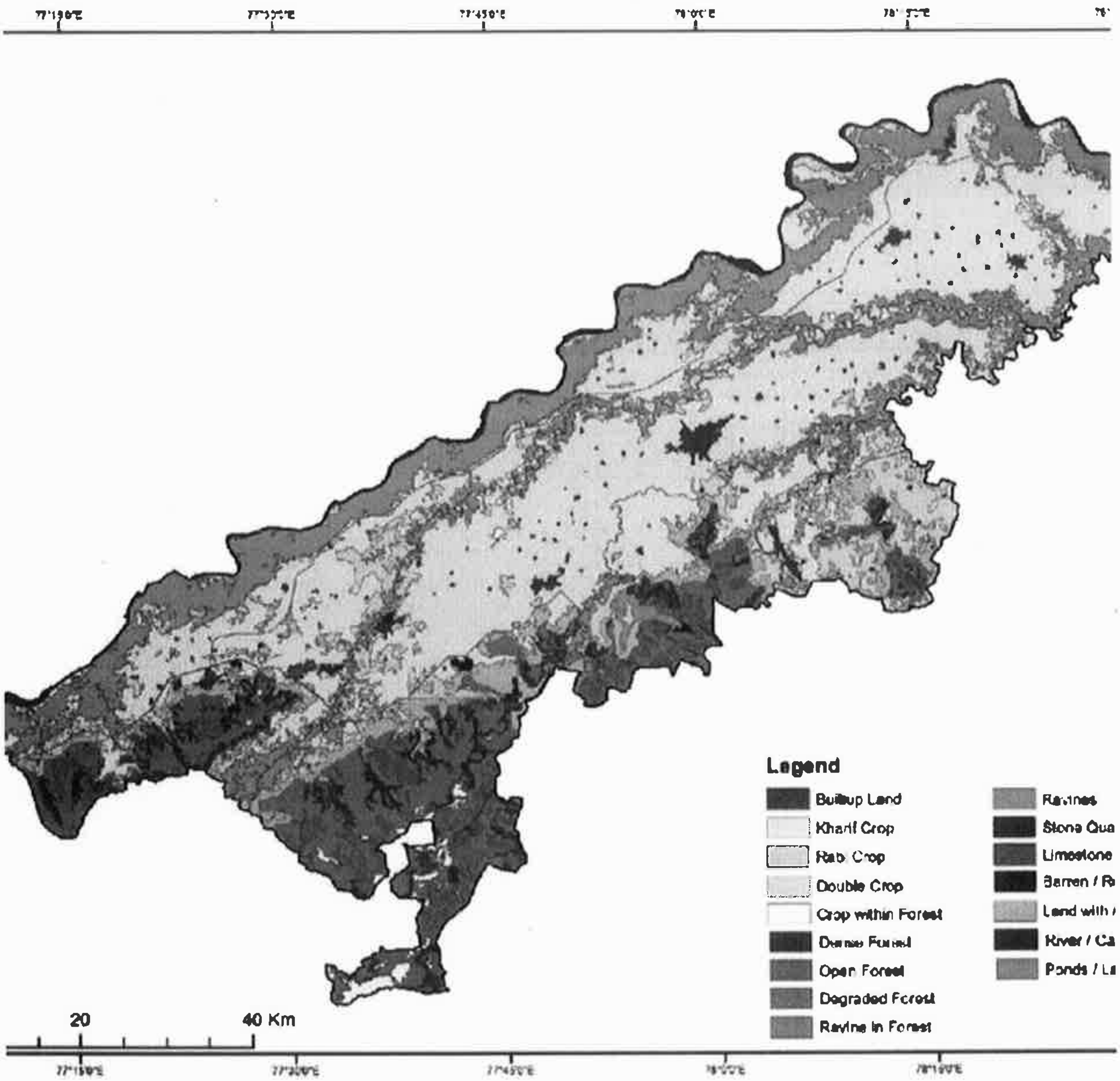
4.0 GROUND WATER SCENARIO

4.1 Hydrogeology

The hydrogeological map of the district is presented as figure 2.

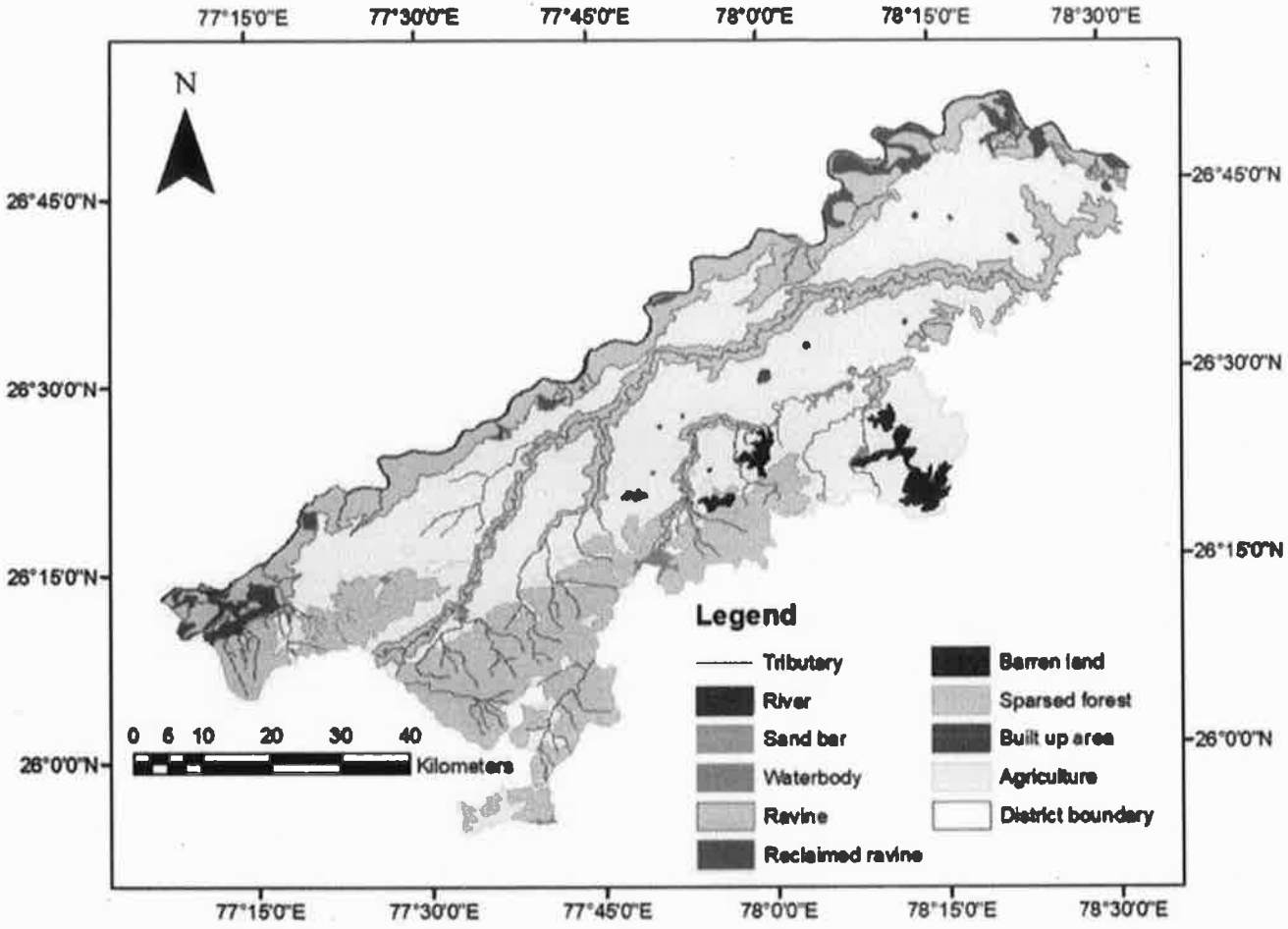


Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and



जिला कार्यालय (खनिज शाखा) मुरैना

Land use /Land cover Map of Morena District 1974



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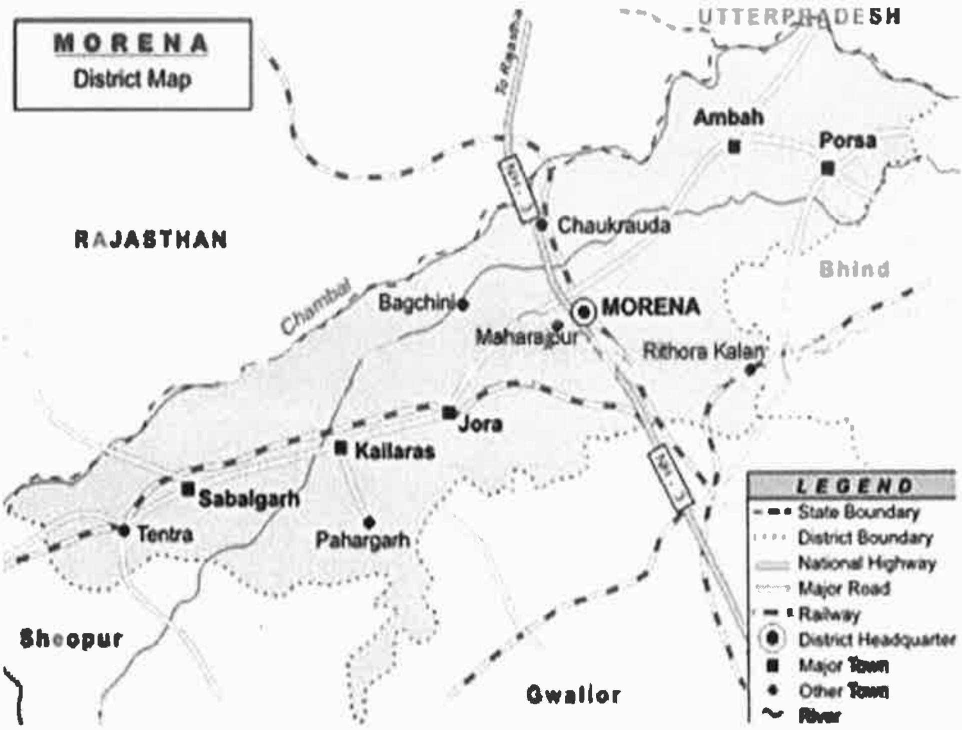

Map 8.1.1 District Map of Morena

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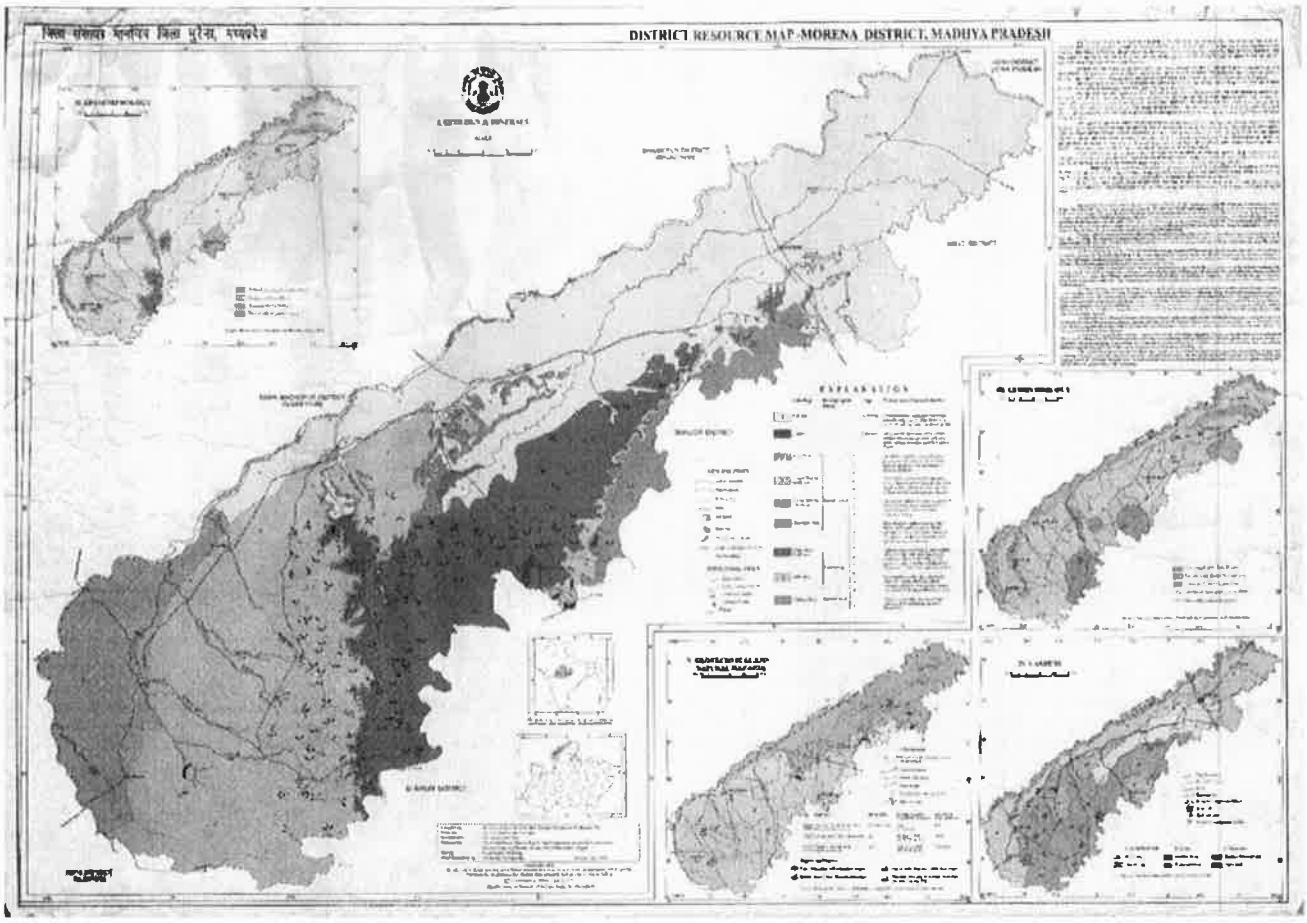

जिला कार्यालय (खनिज शाखा) मुरैना

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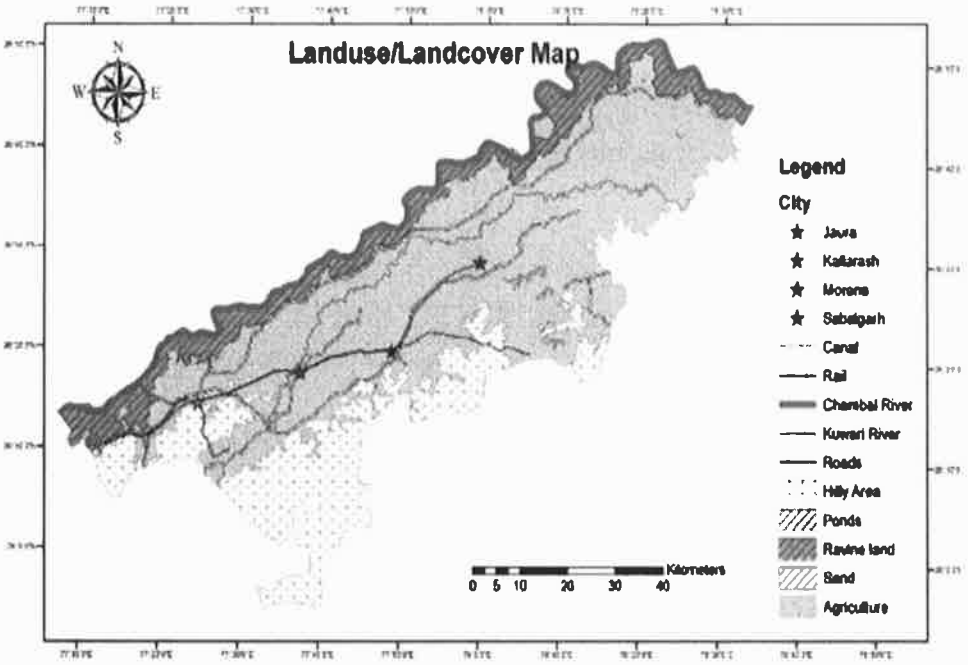
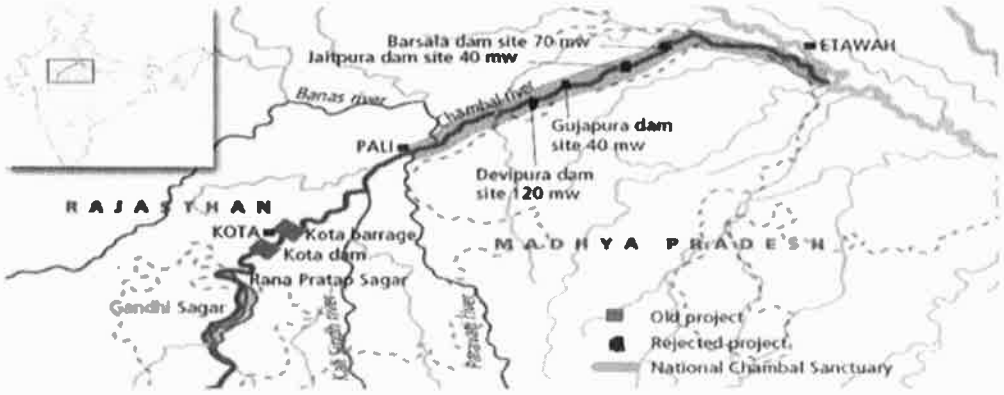


Map 8.1.2 Land-use/Land-cover Map of Morena



Map 8.1.3 Showing the Chambal River, National Chambal Sanctuary and Kota dam and barrage – flood in the Chambal River valley areas occurs when Chambal River overflows due to release of excess water into the river by the Kota barrage

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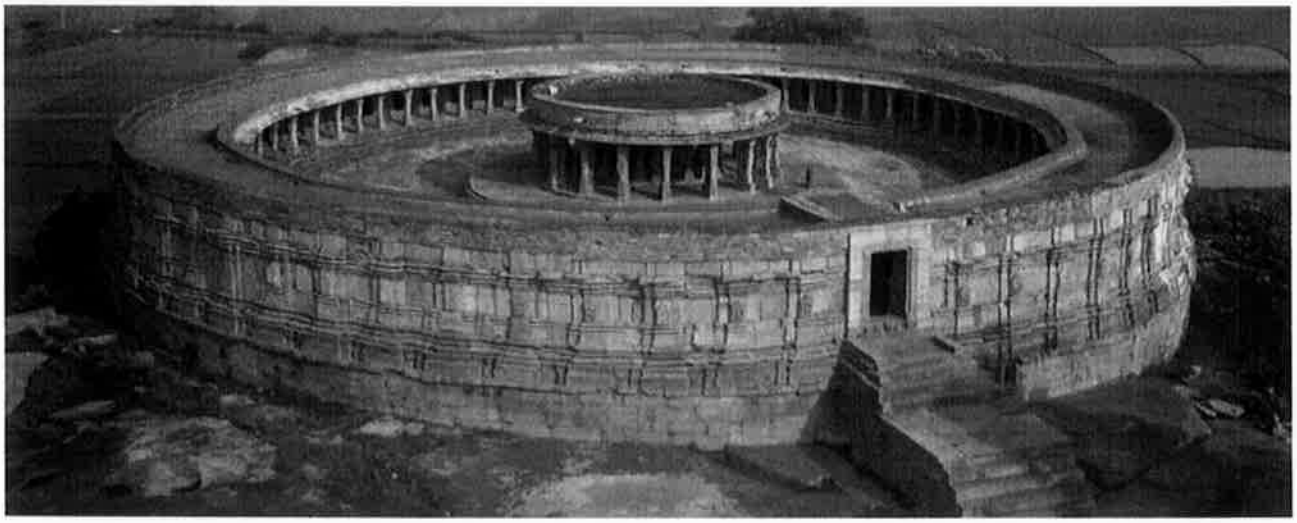
जिला कार्यालय (खनिज शाखा) मुरैना

GOVERNMENT OF
MADHYA PRADESH

DISTRICT SURVEY REPORT OF MORENA

FOR MINOR MINERAL- MURRUM



SUB DIVISIONAL COMMITTEES,
MORENA(M.P)

State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

क्रमांक/खनिज/DSR/2022–23 1996 मुरैना,दिनांक 16 .09.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC)
म.प्र. प्रदूषण नियंत्रण बोर्ड,
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– संशोधित जिला सर्वेक्षण रिपोर्ट **(DSR)** मय निर्धारित फॉर्मेट अनुसार तैयार कर प्रस्तुत करने बावत्।

संदर्भः– 1–कार्यालयीन पत्र कं0/खनिज/DSR/2022–23/953 मुरैना दि. 30.08.2022।
2–वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022।

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कृपया संदर्भित पत्र का अवलोकन करने का कष्ट करें, जिसके द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662/2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेष दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020 के तहत् रेत खनिज से भिन्न अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) के लिये तैयार कर अग्रिम कार्यवाही हेतु भेजी गई थी।

आपके द्वारा वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022 में दिये निर्देशानुसार मुरैना जिले की अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) पृथक–पृथक जिला सर्वेक्षण रिपोर्ट (D.S.R.) मय निर्धारित फॉर्मेट (16 बिन्दुओं) अनुसार वीडियो कॉन्फ्रेसिंग में दिये निर्देशानुसार के पालन में तैयार कर पत्र के संलग्न अग्रिम कार्यवाही हेतु कृपया सादर प्रस्तुत है।

संलग्नः–
(D.S.R.) की संशोधित प्रतियां
1–मुरम
2–फर्सीपत्थर
3–मिटटी (चिमनीभटटा)
4–केशरगिटटी

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना म0प्र0)

क्रमांक / खनिज / DSR /2022–23 / 953 मुरैना,दिनांक 30.08.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC),
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– जिला सर्वेक्षण रिपोर्ट (D.S.R.) प्रस्तुत करने के संबंध में।

संदर्भः– 1–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 5012 / भौमिकी / नंक0 / 2022 भोपाल, दिनांक 13.04.2022 एवं पत्र क्रमांक 8192 दिनांक 16.06.2022।
2–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / म.प्र. / 2022 भोपाल, दिनांक 03.03.2022

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उपरोक्त विषयान्तर्गत संदर्भित पत्रों द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020 गाइड लाईन के पालन में तहत (रेत खनिज) से भिन्न अन्य गौण खनिज **केशर गिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा)** के लिये पृथक–पृथक कुल 04 प्रारूप जिला सर्वेक्षण रिपोर्ट (D.S.R.) का परीक्षण किया गया एवं अनुमोदित किये जाने हेतु अनुशंसा की गई है।

प्रारूप डी.एस.आर. को नियत समयावधि हेतु दिनांक 02.08.2022 से 23.08.2022 (21 दिवस) हेतु मुरैना जिले के पोर्टल (morena.nic.in) पर तथा हार्डकॉपी खनिज कार्यालय मुरैना में आमजन के दावा / आपत्ति एवं सुझाव हेतु रखी गयी, जिसमें दावा / आपत्तियों प्राप्त नहीं हुई है।

संचालक, भौमिकी तथा खनिकर्म, भोपाल के पत्र कमांक / 8192 दिनांक 16.06.2022 द्वारा दिये गये निर्देश अनुसार निर्धारित फार्मेट में अघतन वांछित जानकारी मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (D.S.R.) अग्रिम कार्यवाही हेतु आपकी ओर प्रेषित है।

कलेक्टर
जिला मुरैना (म.प्र.)

संलग्नः–
डी.एस.आर. की प्रतियां
1–केशर गिटटी,
2–फर्सीपत्थर
3–मुरम
4–मिट्टी (चिमनीभट्टा)

पृ0क्रमांक / खनिज / DSR /2022–23 मुरैना,दिनांक

प्रतिलिपिः–

1. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. (SEIAA) की ओर सूचनार्थ प्रेषित ।
2. संचालक, भौमिकी तथा खनिकर्म, 29–ए, अरेरा हिल्स, भोपाल की ओर सूचनार्थ।
3. क्षेत्रीय कार्यालय, संचालनालय भौमिकी तथा खनिकर्म, मोतीमहल ग्वालियर की ओर सूचनार्थ।
4. प्रभारी अधिकारी, एन0आई0सी0, कलेक्ट्रेट, मुरैना (म0प्र0) की ओर सूचनार्थ।
5. जिला खनि अधिकारी, जिला मुरैना की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।

कलेक्टर
जिला मुरैना (म.प्र.)

क्रमांक / खनिज / DSR/2022 मुरैना, दिनांक 01/08/2022

जिला सर्वेक्षण रिपोर्ट (प्रारूप) की अनुशंसा हेतु आयोजित बैठक का कार्यवाही विवरण

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माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021 के अनुसार **सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020** के पालन में संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क्र. / 2022 भोपाल, दिनांक 03.03.2022 तथा कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना का आदेश क्रमांक / खनिज / DSR / 2022 / 852 मुरैना, दिनांक 22.07.2022 के पालन में तैयार की गई जिला सर्वेक्षण रिपोर्ट (District Survey Report)(प्रारूप) की अनुशंसा हेतु आयोजित बैठक दिनांक 01.08.2022 में निम्नानुसार सदस्य उपस्थित हुये :–

1– अनुविभागीय अधिकारी (राजस्व) मुरैना।
2– खनि अधिकारी, जिला मुरैना
3– कार्यपालन यंत्री, जल संसाधन विभाग, मुरैना।
4– राज्य प्रदूषण नियंत्रण मण्डल के नामांकित अधिकारी।
5– उप वनमण्डलाधिकारी, उप वनमण्डल, मुरैना ।

उपरोक्तानुसार आयोजित बैठक में रेत खनिज से भिन्न अन्य गौण खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के लिये पृथक–पृथक तैयार की गई जिला सर्वेक्षण रिपोर्ट (D.S.R.) के संबंध में चर्चा की गई, जो सही पाई गई। उक्त जिला सर्वेक्षण रिपोर्ट (प्रारूप) पर्यावरण, वन और जलवायु परिवर्तन मंत्राल की अधिसूचना दिनांक 25.07.2018 में विहित प्रावधानों के अनुरूप है। उक्त 04–जिला सर्वेक्षण रिपोर्ट (प्रारूप) खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के संबंध में अग्रिम कार्यवाही हेतु सर्वसम्मति से अनुशंसा की जाती है।

संलग्न :– डी.एस.आर.की प्रति सॉफ्ट कॉपी, हार्डकॉपी

अनुविभागीय अधिकारी
(राजस्व)
अनुभाग मुरैना (म.प्र.)

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म.प्र.)

उप वनमण्डलाधिकारी
सामान्य वनमण्डल
जिला मुरैना (म.प्र.)

कार्यपालन यंत्री
जल संसाधन विभाग
जिला मुरैना (म.प्र.)

प्रभारी अधिकारी
राज्य प्रदूषण नियंत्रण मण्डल
ग्वालियर (म.प्र.)

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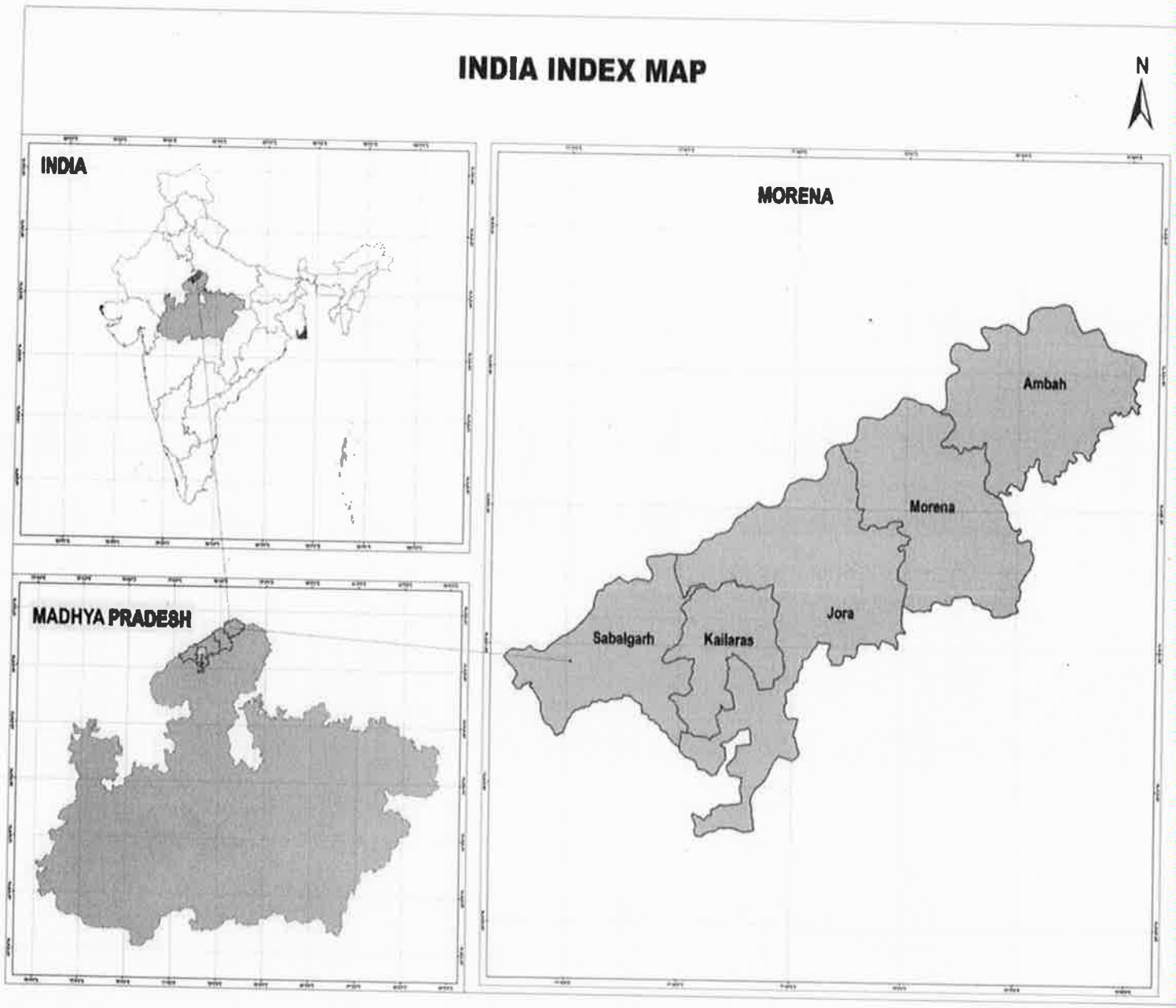
FOR D.S.R. MINOR MINERAL- MURRUM

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना



State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

District Survey Report: Morena

Introduction

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Geographical Information:

Geography & Climate	
Latitude	$76^0$30" से $78^0$33"
Longitude	$25^0$17" से $26^0$52"
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

River/Lake:

The district falls in drainage area of Yamuna system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river: This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river:This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river:The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Boundaries:

The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest

Climate:

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 47.10 celsius. In cold season the district has freezing cold and temperature drops to 3.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north - western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September, June being the rainiest month.

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

Approach Road/Rail:

The district headquarters is located on Agra-Mumbai National Highway No.3 and on Central railway lines. Roads are constructed by P.W.D., Forest Department and Rural Development Department in the district which are inter-connected with Tahsils and community development Blocks headquarters as well as with all village panchayats . On the Central rail line of the district Morena , Sank, Nurabad, Bamor, Sikranada, and Hetampur stations are situated. The Gwalior – Sheopur narrow gauge railway line passes through the district where Bamor, Jaora, Kailaras Ran-Pahadi and Sabalgarh are main stations and on Gwalior to Bhind railway lines there are Shanichara and Rethaura railway stations. The nearest air facility is available at Gwalior.

Physiography:

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state.

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History

As per the local belief, there were sarai(shelter), at place like Morena, Noorabad, Chhoda, Porsa etc. on the highway during the Mughal period. The town was named after the small village of Muraina, located about 8 km. away from the present town. The nearby railway station of Shikarpur and the sarai was also later renamed after the old village. Initially it was called Pench-Morena as it had a number of cotton processing machines.

The district is located on the north-western border of the state in Chambal valley. The present

Morena is combined with the Sikarwari and Tanwargarh districts of 19th century. Due to major settlement of Sikarwar Rajputs in Ambah area, this was known as Sikarwari. Similary due to the settlement of Tanwars(Tomars) in Joura area, the central part of the district was called Tanwargarh. The district Sikarwari, the part of former Gwalior state was later on merged into Tanwarghar in 1904 with headquarters of Joura-Alapur which is presently a tahsil headquaters. As per order No 6/10/1923 the pargana headquarters shifted from Nurabad to Morena and vide order No. 492 dated 6/10/1923 the district headquarters was also changed to Morena. In the year 1948 consequent to the formation of Madhya Bharat the Sheopur district of former Gwalior state was included in Madhya Bharat. Later it became a separate district after the reorganisation of Madhya Pradesh.As per Notification No. 1002/F/20-08-92/Sha. 8 M.P. dated 22nd May 1998, Sheopur, Karahal and Vijaypur tahsils were excluded from Morena district and a new district Sheopur was formed. Morena, Porsa, Ambah, Joura, Kailaras and Sabalgarh tahsil remained in Morena district.

During an excavation in the year 1927-28 in Kutwar village, a huge treasure chest of 18,659 bronze coins was found from which it can be firmly said that during the 3rd and 4th centuries this area was under the rule of Naga Kings. After the Nagas, Guptas, Hoons, Vardhans, Gurjaras, Pratihars, Chandellas and Kachchhapaghatas successfully ruled over this territory. Kirtiraja was the famous king of this dynasty, under whose period the temples of Sihonia were built. After the dynasty of Kachchhapaghatas clans of TomarRajputs etc. ruled over this region till 1526. After the hegemony of Mughals, during the period of the administrative reorganization of the district fell partly within the sarkars of Sheopur and Baroda Mahal, Ajmer suba of Ranthambhor Sarkar, AlapurMahal, Agra Subah of Gwalior Sarkar and Awantgarh and Vijepur Mahal Subah were under the rule of Mandal Sarkar, Remaining areas were included under Gwalior Sarkar.

From the period after invasion of the area by Akbar to last decade of 18th century, this area was part of Mughal. After the eventful battle of Panipat in 1761, Mahadji Sindhia captured Gwalior and by footing into nearby regions and the history of Morena became a part of Gwalior. Due to the services and the policy acceleration by the French commander of the Sindhias army named Jean Baptiste Fillose who trained and administered the army of Sindhia the army power of Mahadji Sindhia became more powerful. After Mahadji Sindhia, Daulat Rao Sindhia established Gwalior as Capital in 1810. In 1853 the Gwalior state was divided into different units under the able guaidance of minister Sir Dinkar Rao during the regime of Jayaji Rao Sindhiya (1843-1886). The state was divided into 3 Prants of Gwalior, Isagarh and Malwa, which were further divided into 19 districts and 62 tahsils. The area of present

Morena was divided into 4 districts viz. Sabalgarh, Sheopur, Sikarwari and Tanwarghar. During the period of the Great Revolt of 1857, Javaji Rao Sindhia decided to remain loyal to British. As and when the Sepoys of Gwalior heard about the fierce fight of the Rani Jhansi they joined the Great Revolt on the night of 14th June 1857. The revolt army reached Kalpi in November 1857 and joined the great revolt under the leadership of Tatya Tope. The situation grew worse in June 1858 when Gwalior was attacked by combined forces of Rani Laxmi Bai of Jhansi, Rao Saheb and Tatya Tope. The Maharaja and his Diwan Dinkar Rao fled to Agra when the leaders of revolt captured Gwalior. On 17th June an appalled battle between Sir Huge Rose and sepoys of the great revolt was fought under the leadership of Rani of Jhansi with combined forces of Naresh (King) of Banda. The nawab of Banda lost one of his arm and in the battle the Rani of Jhansi attained martyrdom. Sir Huge Rose offered his condolence with statement that "Rani of Jhansi was a brave and great general". With achievement of independence of India on 15th August 1947, Gwalior state was included in Union of India and on 28th May 1948 reorganization of states it was included in an unified state of Madhya Bharat. Morena became separate district, as a result of the reorganization of states of the formation of new Madhya Pradesh on 1st Nov. 1956.

Chambal Sanctuary Notifications

Administrative approval of the Government of India for the establishment of the National Chambal Sanctuary was conveyed in Order No. 17-74/77-FRY (WL) dated 30 September 1978. The Sanctuary has sanctuary status declared under Section 18(1) of the Wildlife Protection Act of 1972. Since such a declaration is carried out by individual states for territory falling within their jurisdiction, there are three separate notifications covering the National Chambal Sanctuary - the Madhya Pradesh portion was gazetted in the Government of Madhya Pradesh Notice No. F.15/5/77-10(2) dated 20 December 1978, the Uttar Pradesh portion was gazetted in the Government of Uttar Pradesh Notice No. 7835/XIV-3-103-78 dated 29 January 1979 and the Rajasthan portion was gazetted in the Government of Rajasthan Notice No.F.11(12)Rev.8/78 dated 7 December 1979.[5]

The sanctuary is protected under India's Wildlife Protection Act of 1972. The sanctuary is administered by the Department of Forest under the Project Officer with headquarters at Morena, Madhya Pradesh

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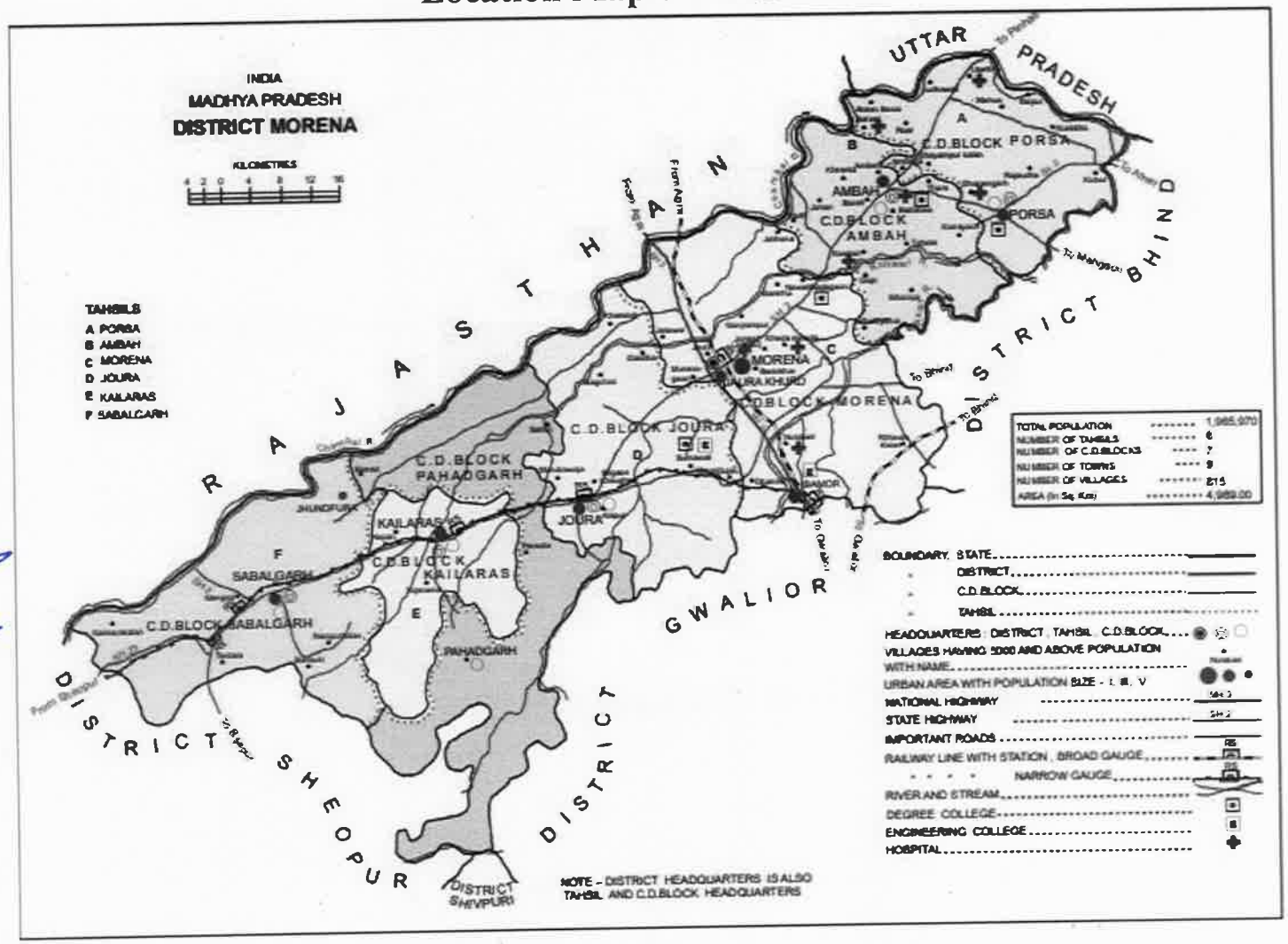
जिला कार्यालय (खनिज शाखा) मुरैना

General Features

Administrative Setup of the District

DISTRICT	Tehsil Places
MORENA	AMBAH
	PORSA
	MORENA
	BANMOR
	JOURA
	KAILRAS
	SABALGRAH

Location Map of the District



जिला कार्यालय (अभिलेख शाखा) मुरैना

List of the Letter of the Intent Holder and Details of the existing Lease in the District

MURRUM Mines

S. N.	Name Of Mineral	Name Of Lessee, Address and Contact No.	Mining Lease Grant Order No. & Date	Village	Survey No./ Area Of Mining Lease Hact.	Period of Mining Lease (Initial)		Period of Mining Lease (1/2 .. renewal)		Date of Commencement of Mining Operation	Status (Working/ Non-Working for dispatch etc.)	Captive/ Non captive	Obtained Environmental Clearance (Yes/No) If Yes latter No. with date of Grant of EC	Location of Mining lease (latitude & Longitude)	Method of Mining Open Cast/ Under ground	Number of tree plantation set up at the mine
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	मुरम	असलम शेर खां नि0 सबलगढ तहसील सबलगढ जिला मुरैना 8815243356	QL/50/2014-30/10/2019	सबलगढ	976 1.500	24.01.20 से 23.01.25		24.01.20 से 23.01.25		24.01.20	Working	Non captive	YES SEIAA/6625-18/02/2021	26°14'32.71" N 77°25'4.35"E	Open Cast	33
2	मुरम	श्री कैलाश चंद्र शर्मा पुत्र श्री रतन लाल शर्मा नि0 129, कन्या शाल रोड, सीतपुर बस्ती,सबलगढ जिला मुरैना 7974077076	QL/104/16-12/02/2020	पहाडी	524 1.000	12.06.20 से 11.06.30		12.06.20 से 11.06.30		12.06.20	Working	Non captive	YES SEIAA/3910-13/01/2020	26°16'02.3"N 77°26'25.8"E	Open Cast	22
3	मुरम	श्री पूनेन्द्र सिकरवार नि0 नैनागढ रोड मुरैना 9516001002	QL/106/2016-29/06/2017	कुल्होली	1605 1.700	17.07.17 से 16.07.22		17.07.17 से 16.07.22		17.07.17	Non-Working	Non captive	YES DEIAA/14/2017-18-16/06/2017	26°16'57.22" N 7°28'36.60"E	Open Cast	37
4	मुरम	कामिनी यादव पत्नी श्री सतीश सिंह यादव नि0 जे. 1035 दर्पण कॉलोनी थाटीपुर ग्वालियर 9753588800	सैद्धांतिक सहमति	कुल्होली	1605 4.000	सैद्धांतिक सहमति जारी		सैद्धांतिक सहमति जारी		सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	83

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जिला कार्यालय (खनिज शाखा) मुरैना

Details of Royalty and Revenue received and Mineral Production in last three years for Minor Mineral Mine lease (2018-19, 2019-2020 and 2020-2021):

Revenue received in last three years Mine lease

सं.क्र.	वर्ष	निर्धारित लक्ष्य	लक्ष्य के विरूद्ध प्राप्त राजस्व	प्रतिशत
1	2018-2019	800.00 Lakh	6,75,38,910/-	84.4
2	2019-2020	900.01 Lakh	9,42,20,393/-	104.5
3	2020-2021	1200.00 Lakh	16,63,59,383/-	138.63

Revenue received in last three years for Murrum Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Revenue (In Rs.)
1	Murrum	2018-19	1,87,701/-
		2019-20	14,13,748/-
		2020-21	20,26,656/-

Mineral Production in last three years for Murrum Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Production in Cubic Meter
1	Murrum	2018-19	3754.02
		2019-20	28274.96
		2020-21	40533.12

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Uses of Minerals

Minor Minerals are mainly use for construction purpose. Minor Minerals' comprise of gravel, building stones, soil, ordinary clay, ordinary sand, and murrum. Other sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.

Crushed stone (Gitti): Angular crushed stone is the key material for macadam road construction, which depends on the interlocking of the individual stones' angular faces for its strength. Also use as rip rap, as railroad track ballast, as composite material (with a binder) in concrete, tarmac, and asphalt concrete.

Sand: Sand is used to give strength, bulk and other properties to construction materials like asphalt and concrete. In landscaping, it is used as a decorative material. A particular type of sand is used for glass manufacturing. Likewise, it is used for metal casting as a moulding material.

Murrum: It is a mixture of minerals, organic matters, gravels, rock particles etc. Murum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.

Soil: Ordinary earth soil used for filling the embankment, roads, railways and building. Soil which is excavated from mine is also used for different purpose of construction.

Brick Clay/Soil: Brick clay/Soil is rich in alumina, silica, calcium, oxides of iron, magnesium and organic matter. These are low grade clays used most for the manufacturing of building bricks and similar clay products.

Formation of sand

Majority of rivers originate from mountains and as they continue their journey with force, through these mountains, the bigger rocks and boulders disintegrate slowly, and over a period of time, starts rolling down as fragments. These fragments become smaller and smaller due to Weathering process by water, wind and other rocks. Thus, developed sand particles are transported, washed and stored and again transported during floods and deposited at river beds and largely on river shores.In case the sand deposits are mined / removed, cavities are formed in their place and again filled during next cycle(s) of deposition.

River sand is preferred as a source of sand because of the following factors:

- Cities tend to be located near rivers so transport costs are low, the energy in a river grinds rocks into gravels and sands
- Eliminating the costly step of mining, grinding, and sorting of rocks
- The material produced by rivers tends to consist of resilient minerals of angular shape that are preferred for construction.
- Also, offer the advantages of being naturally sorted by grain-size, easily accessible, and able to be transported inexpensively using barges. Despite plentiful supplies of desert sand (Aeolian), which produce materials unsuitable for making concrete.

A meandering stream has a single channel that wind snakelike through its valley. As water flows around these curves, the outer edge of water is moving faster than the inner edge. This creates an erosionsurface on the outer edge (a cut bank) and a depositional surface on the inner edge (a point bar). Where the bends of two meanders meet, they bypass the curve of river, creating an oxbow lake which may then be in-filled with over wash sediment.

Meanders change position by eroding sideways and slightly downstream. The sideways movement occurs because the maximum velocity of the stream shifts toward the outside of the bend, causing erosion of the outer bank. At the same time the reduced current at the inside of the meander results in the deposition of coarse sediment, especially sand. Thus by eroding its outer bank and depositing material along its inner bank, a stream moves sideways without changing its channel size. Due to the slope of the channel, erosion is more effective on the downstream side of a meander.

The specific gravity of an aggregate is considered as the measure of strength or quality of the material. Specific gravity is defined as the ratio of weight of a given volume of aggregate to the weight of equal volume of water. Aggregates having low specific gravity are generally weaker than those with aggregates having high specific gravity. This property helps in a general identification of aggregates. The specific gravity of (sand) is considered to be around 2.65 to 2.67.Sand particles composed of quartz have a specific gravity between 2.65 to 2.67. While inorganic clays generally range from 2.70 to 2.80. Soils with large amounts of organic matter or porous particles have specific gravity below 2.60 (Some range as low as 2.00).

Sources of sand

Sand is world's second most consumed natural resource after water. Rapid urbanization and global population growth have created unbound demand for this limited natural resource. With urbanization as key driving factor, construction industry has expanded considerably over the last few decades leading to overuse of river sand for construction purposes. This increasing discrepancy between the need for aggregates in the society and scarcity of natural sand due to exhaustion of resources and environmental considerations, has urged concrete manufacturers to look for a suitable and sustainable alternative fine aggregate. The economical and ecological alternative is manufactured sand.

Natural Sources

Natural sand is produced by natural forces, such as river sand and sea sand. Generally, sand found at foot of mountains is more weathered, containing more mud, organic impurities and light substances. Sea sand often contains shells and other impurities, and its components such as the chlorine, sulfate and magnesium salts may cause corrosion of steel bars. All the components will affect the performance of concrete. Sources of sand can be river bed material, de-siltation pits in reservoirs/dams, agricultural land etc. these can be broadly classifies as:

Following are the natural types of the sand:

- **Pit Sand**

This sand is found as deposits in soil and it is obtained by forming pits into soils. It is excavated from a depth of about 1 m to 2 m from ground level. The pit sand consists of sharp angular grains which are free from salts and it proves to be excellent material for mortar or concrete work. For making mortar, the clean pit sand free from organic matter and clay should only be used.

- **River Sand**

This sand is obtained from banks or beds of rivers. The river sand consists of fine rounded grains probably due to mutual attrition under the action of water current. The colour of river sand is almost white. As river sand is usually available in clean condition, it is widely used for all purposes.

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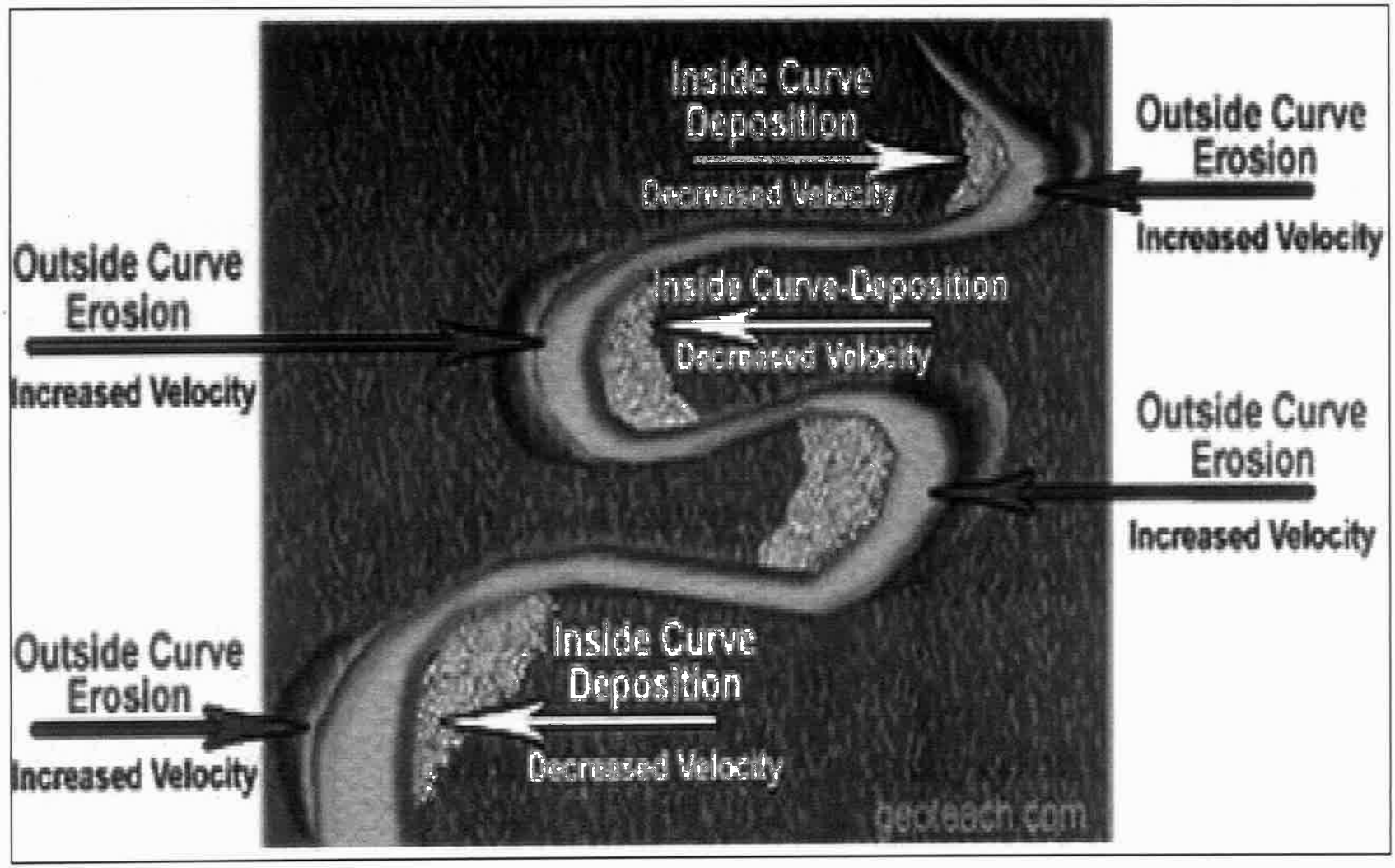
- **Sea Sand**

This sand is obtained from sea shores. The sea sand, like river sand, consists of fine rounded grains. The colour of sea sand is light brown. The sea sand contains salts. These salts attract moisture from the atmosphere. Such absorption causes dampness, efflorescence and disintegration of work. The sea sand also retards the setting action of cement. Due to all such reasons, it is the general rule to avoid the use of sea sand for engineering purposes except for filling of basement, etc. It can however be used as a local material after being thoroughly washed to remove the salt.

Manufactured Sand

Manufactured sand (M-Sand) is artificial sand produced from crushing hard stones into small sand sized angular shaped particles (rock particles with a particle size of less than 4.75 mm and is made by artificial crushing and sieving after soil removal treatment), washed and finely graded to be used as construction aggregate. It is a superior alternative to River Sand for construction purpose. The main technical indicators of artificial sand are particle gradation, fineness modulus, stone powder content, void ratio, apparent density, bulk density, methylene blue value (MB), crushing value index, mica content, light-matter content, etc.



Conducive Areas for sand deposition

जिला कार्यालय (खनिज शाखा) मुरैना

Sand Mining

Sand Mining is an activity referring to the process of the removal of sand from rivers, streams and lakes.

- Sand is mined from beaches and dredged from river beds.
- There are no official figures for the amount of sand mined illegally, but in 2015-16, there were over 19,000 cases of illegal mining of minor minerals, which include sand, in the country.
- To stop illegal mining, the Ministry of Environment, Forest and Climate Change (MoEF) issued Enforcement and Monitoring Guidelines for Sand mining.
- These guidelines focus on the effective monitoring of the sand mining.

Following considerations shall be kept in mind for sand mining:

- Parts of the river reach that experience deposition or aggradations shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations problem.
- Sand and gravel may be extracted across the entire active channel during the dry season.
- Abandoned stream channels on the terrace and inactive floodplains are to be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- Layers of sand which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- Sand shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- Sand and gravel shall not be extracted up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a

minimum of 250 meters on the upstream side and 500 meters on the downstream side.

- Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
- The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, and this sandy-gravelly track constitute excellent conduits and hold the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
- Mining depth should be restricted to 3 meters and distance from the bank should be ¼thor river width and should not be less than 7.5 meters.
- Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
- A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
- River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

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- The mining from the area outside river bed shall be permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed Three-meter (3 m) at any point in time.
- The permanent boundary pillars need to be erected after identification of an area of aggradations and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.

General Profile of the District

Geographical Information:

Geography & Climate	
Latitude	$76^0 30''$ से $78^0 33''$
Longitude	$25^0 17''$ से $26^0 52''$
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

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Land utilization Pattern in the District: Forest, Agricultural, Mining, etc.,

FOREST:

The forest are mostly tropical dry deciduous type Kardhai (Anogeissus pendula) is most important species. The quality of Kardhai depends on the depth, drainage, rainfall, etc. But most important factors is altitude and moisture contents of the soil. Kardhai occurs almost pure on the flat areas, on the higher altitude Kardhai is noticed on slopes having cooler aspect. Other common tree species noticed are salai (Boswellia serrata) dhooda, khair (Alacia Catechu), tendu, krir dhudhi, medha-singh (Dolichandron faleata), arjun, kulhu (stereulia urens), kusum, kasai, kari (miliusa tomentosa) semal (salmalia mala-barica) aonla, kala siris (Albizzia lebbek), safed siris (Albizzia Procers), palas (Butea monosperma), haldu, spisham (Dalbergio latifelia), padar, raj etc. The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor. The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jorra CD blocks. The forests are dry and autumnal. Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) 564, wild boar 112, jackal 1072, hyenas 74, peacocks 72,152, rabbits 107, foxes 171, syah 61, wolves 35, spotted deer's 12, deer's 471 and bears 27 are the wild life found. The district has black buck, cheetal, nilgai, sambhar, etc in the forest. The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The other common dear species is barking deer (mantiaeus muntejak). They are found in thick forest and come out to graze in open areas, Chinkara and black buck are ANALYTICAL NOTE DISTRICT CENSUS HANDBOOK : MORENA 5 very active animals. The black faced monkey (presliytic entallus) is seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). Grey jungle and jungle fowls are also be seen. The common snakes in the district are cobra, craite, python etc.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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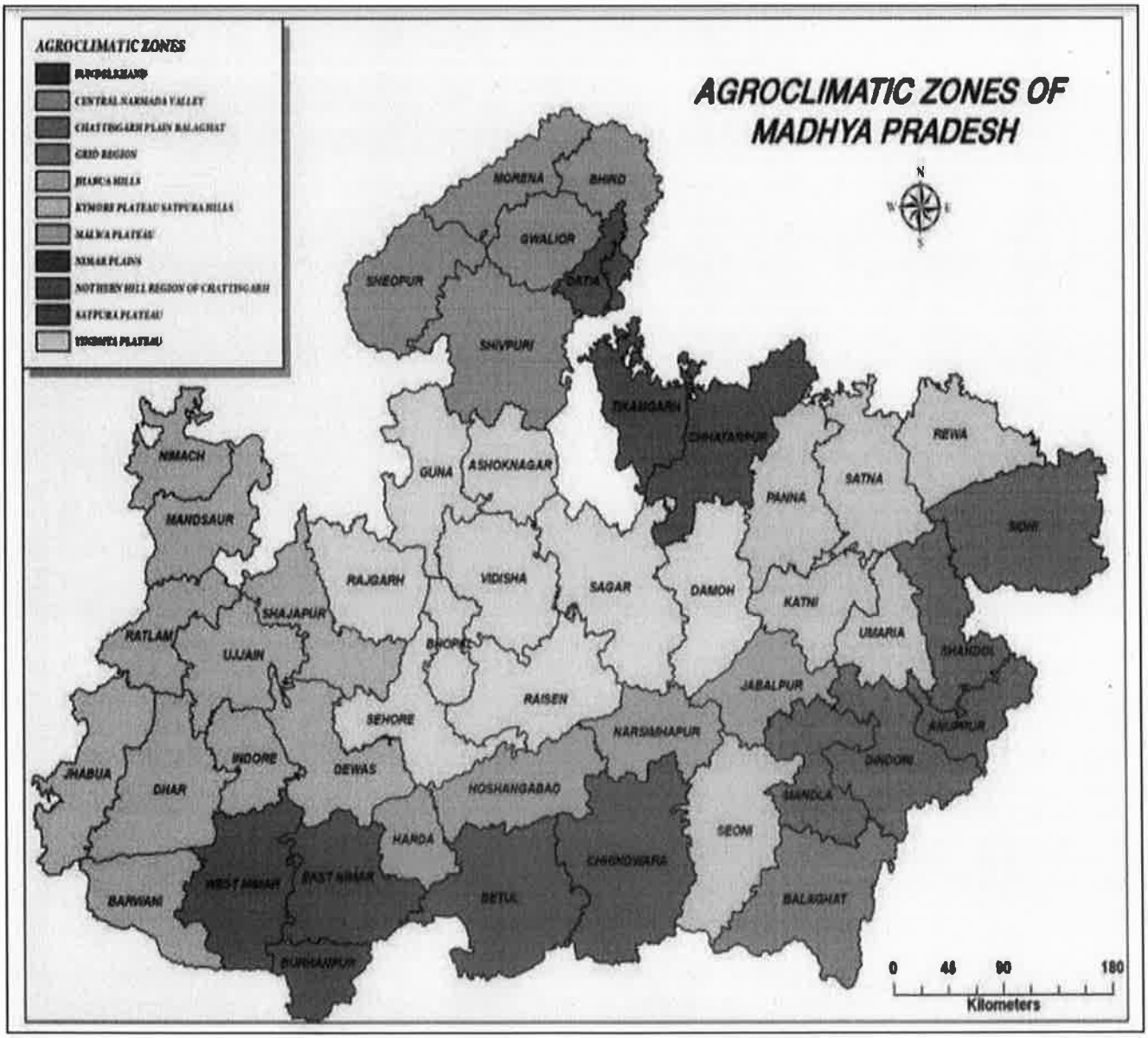
AGRICULTURE:

The soil of the district is alluvial. The level of the river banks land are also alluvial. The economy of the district is mainly based on agriculture. More than 50% land is under cultivation. The double crops i.e. Rabi and Kharif crops are wholly sown in the district. Under kharif crops jawar, bajra, rice, tuar, urad and moong are sown and under Rabi crops wheat, gram and mustard are sown. Mustard is sown in the largest area of the district. Main crops according to use of area is mustard 174,982 hect., wheat 81,506 hect, gram 12,704 hect, vegetables 608 hect's and spices in 239 hect.



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जिला कार्यालय (खनिज शाखा) मुरैना

MINING:

Morena district holds a distinct place in the state with respect to sand stone mining .
In the district mainly sand stone, clay, gitti, murum and sand are found.
Morena distt sand deposites in the Chambal river century which is probited for the sand mining.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

State Level Environment Impact Assessment Authority, M.P. (EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)
जिला कार्यालय (खनिज शाखा) मुरैना

Physiography of the District

Morena district is extended in the north 250 17` to 260 52` latitudes and 760 30` to 780 33` East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Details of Month wise Rainfall data of 1year

Tehsil/ Month	PORSA	AMBAH	MORENA	JOURA	KAILARAS	SABALGRAH
Jan	2.0	3.0	3.0	2.0	7.0	3.0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	8.0	5.0	10.2	18.0	12.0	3.0
jun	23.0	13.0	27.0	14.0	42.0	67.0
jul	152.0	108.0	256.2	181.0	188.0	232.0
Aug	205.0	197.0	198.8	163.0	177.0	365.0
Sep	335.0	165.0	92.8	155.0	141.0	225.0
Oct	40.0	49.0	30.4	30.0	17.0	34.0
Nov	0	0	1.0	0	4.0	3.0
Dec	2.0	7.0	6.0	4.0	9.0	12.0

जिला कार्यालय (खनिज शाखा) मुरैना

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Rainfall of the District and Climate Conditions

Rainfall

Morena has a cool and dry climate .The hot weather starts from about the middle of April and lasts up to mid of May. The temperature in June touches 47 degree Celsius. By the end of June or by the 1st week of July, the monsoon breaks and the weather becomes cool, through humid. The district receives its rains from the Arabian Sea. The rains are over generally by end of September. Morena receives on an average 530 mm of rain.

Climatic Conditions

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 44.0 celsius. In cold season the district has freezing cold and temperature drops to 2.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September.

The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor.

The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jaura CD blocks. The forests are dry and autumnal Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) , wild boar , jackal , hyenas , peacocks , rabbits , foxes , porcupine, wolves , spotted deers and deers and are the wild life found.The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The black faced monkey (presliytic entallus) are seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). The common snakes in the district are cobra, craite, python etc.

Geology of the District

Vindhyan Super group of rocks of Meso to Neo-Proterozoic age, Laterites of Cainozoic age and Quaternary Alluvium are the rock types exposed in the area, The Vindhyan Supergroup in the area is represented by Kaimur, Rewa and Bhander Group of rocks. Kaimur in the area is represented Dudauni Sandstone. The rock is white to dirty white in colour, fine to medium grained, thinly to thickly bedded with interbands of siltstone at places. The rock is fine grained, thickly bedded and massive towards the top. The Rewa Group is represented by Jhiri Shales and Upper Rewa Sandstone. Jhiri Shale conformably overlies the Dudauni Sandstone with a sharp contact. The shale is predominantly argillaceous in nature and olive green to khaki, grey, chocolate brown to reddish brown, splintery and thinly bedded with minor interbands of siltstone containing numerous veins of calcite. The Upper Rewa Sandstone is represented by light grey to greenish grey, brown, pink, white to dirty white, fine to medium grained and moderately sorted glauconitic sandstone. The rock is quartzitic and flaggy to thickly bedded in nature, The Bhander Group, which overlies the Rewas with a gradational contact, is represented by Ganurgarh Shale, Lower Bhander Limestone, Lower Bhander Sandstone and Sirbu Shales. Ganurgarh Shale is the lower most formation of Bhander Group of rocks and is represented by greyish green, reddish brown to dark brown, purple coloured shale. The rock is friable, splintery to thinly laminated in nature. It is generally ferruginous, at places arenaceous and calcareous towards the top. It shows intercalations of limestone at places. Ganurgarh Shale is overlain by the Lower Bhander Limestone. Being an almost persistent horizon, the limestone forms good marker horizon. It is marked by occasional presence of intraformational breccia at the base. This limestone is typical ash grey in colour, fine grained, thinly to thickly bedded and shows elephant skin weathering and breaks along the conchoidal fractures. Overlying the Lower Bhander Limestone, the Lower Bhander Sandstone is exposed in the western part of the area. It is dirty white, pinkish to light brown colour, fine to medium grained, quartzitic and thinly to thickly bedded. Cross bedding of tabular and trough type are common in this rock. The overlying Sirbu Shale is greenish to greenish blue, pale grey, purple, red and brown in colour with thin interbands of siltstone at places. The shale generally thinly bedded and splintery.

Laterite forms flat and slightly undulatory capping over the rocks of Vindhyan Supergroup. It occurs at two elevations between altitudes of 425 m to 530 m above m.s.l. It is dark reddish brown and red in colour and mainly consists of Haematite, Goethite, gibbsite, few opaques and quartz. Quaternary Alluvium consisting of unconsolidated to consolidated yellowish brown sand, silt and clay with gravel and pebbles forms the youngest formation exposed in the area. The thickness of the alluvium varies from a meter to more than 15m. The area exhibits good development of sedimentary structures viz, current bedding, ripple marks, rain prints, rib and furrow structures, ball and pillow structures, mud cracks, clay balls, concretion, load and flute structures etc. The general strike of the bedding is N-S to NNE-SSW with varying dips of 4 to 10° towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW- SE, NE-SW, E-w and NNE-SSW with vertical dips.

STRATIGRAPHIC STATUS

LITHOLOGY	*STRATIGRAPHIC STATUS*		*NATURE AND CHARACTERISTICS*
Alluvium	*Quaternary*		*Unconsolidated, semi consolidated and consolidated, grey to yellowish brown sand, silt and clay with gravel and pebble*
Laterite	*Cainozoic*		*Dark reddish brown and red in color, consists of limonite, goethite, gibbsite some opaque minerals and a few quartz Grains*
Sirbu Shale	*BHANDER GROUP*	***VINDHYAN SUPERGROUP***	*Greenish to greenish blue, pale grey, purple red and brown in color, thinly bedded, splintery, with interbands of Siltstone at places*
Lower Bhander Sandstone			*Dirty white, pinkish to light brown in colour, fine to medium grained, quartzitic, thinly to thickly bedded, cross bedding of both tabular and trough type present*
Lower Bhander limestone			*Ash grey in colour, fine grained, thinly to thickly bedded, shows elephant skin weathering and brakes along the concoidal fractures*
Ganurgarh Shale			*Greyish green, reddish brown to dark brown, and purple coloured, friable, splintery to thinly laminated, generally ferruginous, at places arenaceous and calcareous towards the top*
Upper Rewa Sandstone	*REWA GROUP*		*Light grey to greenish grey, brown, pink, white to dirty white in colour, fine to medium grained, moderately sorted, quartzitic, flaggy to thickly bedded and Glauconitic; shows intercalations of shale*
Jhiri shale			*Olive green to khaki, grey, chocolate brown to reddish brown in colour, splintery and thinly bedded with minor interbands of siltstone with calcite veins*
Dudauni Shale	*KAIMUR GROUP*		*White to dirty white, fine to medium grained, thick bedded and massive toward top.*

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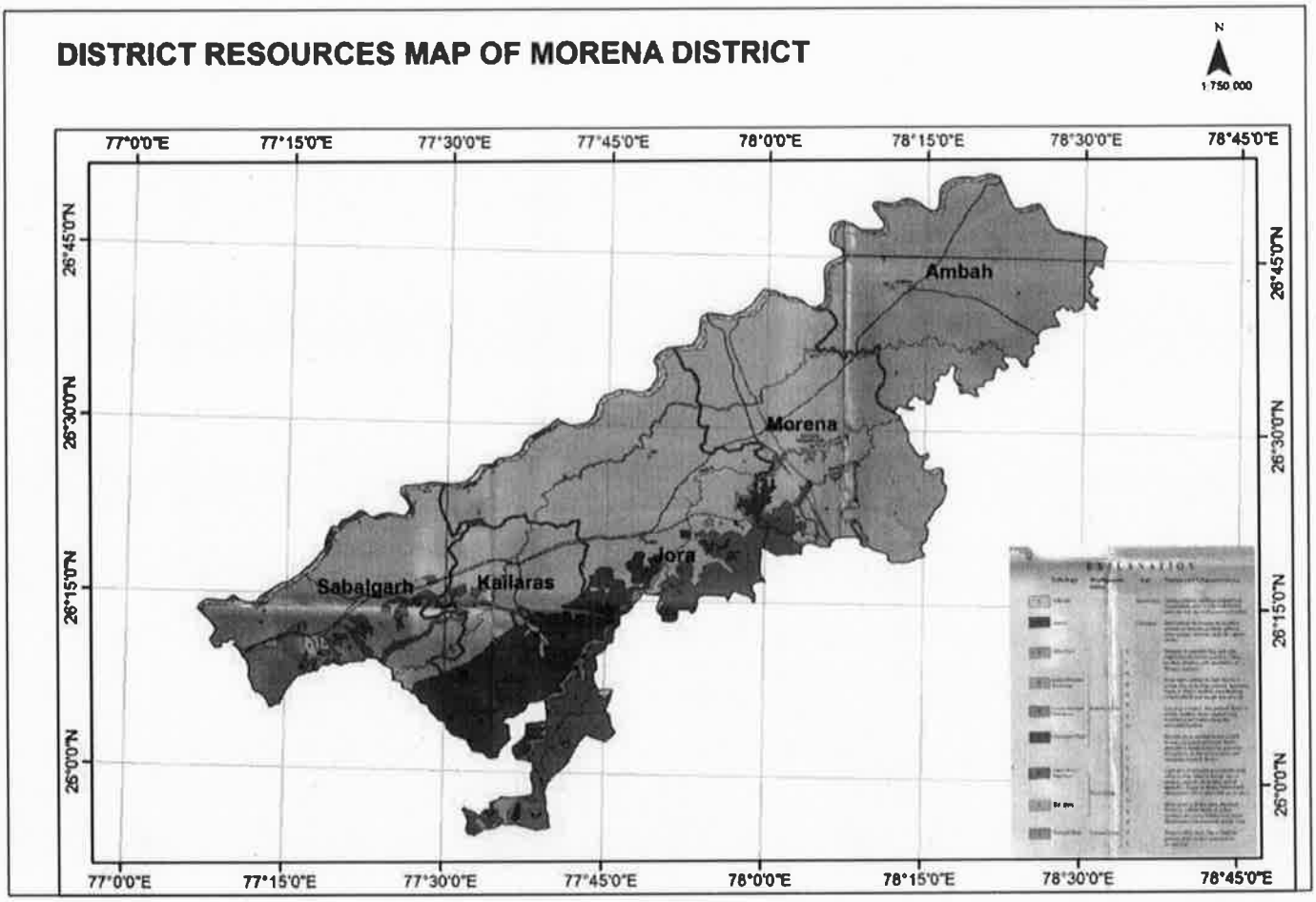
Geological Map of the District



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DRAINAGE

The district falls in drainage area of Ganges system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river :

This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river

This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river

The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

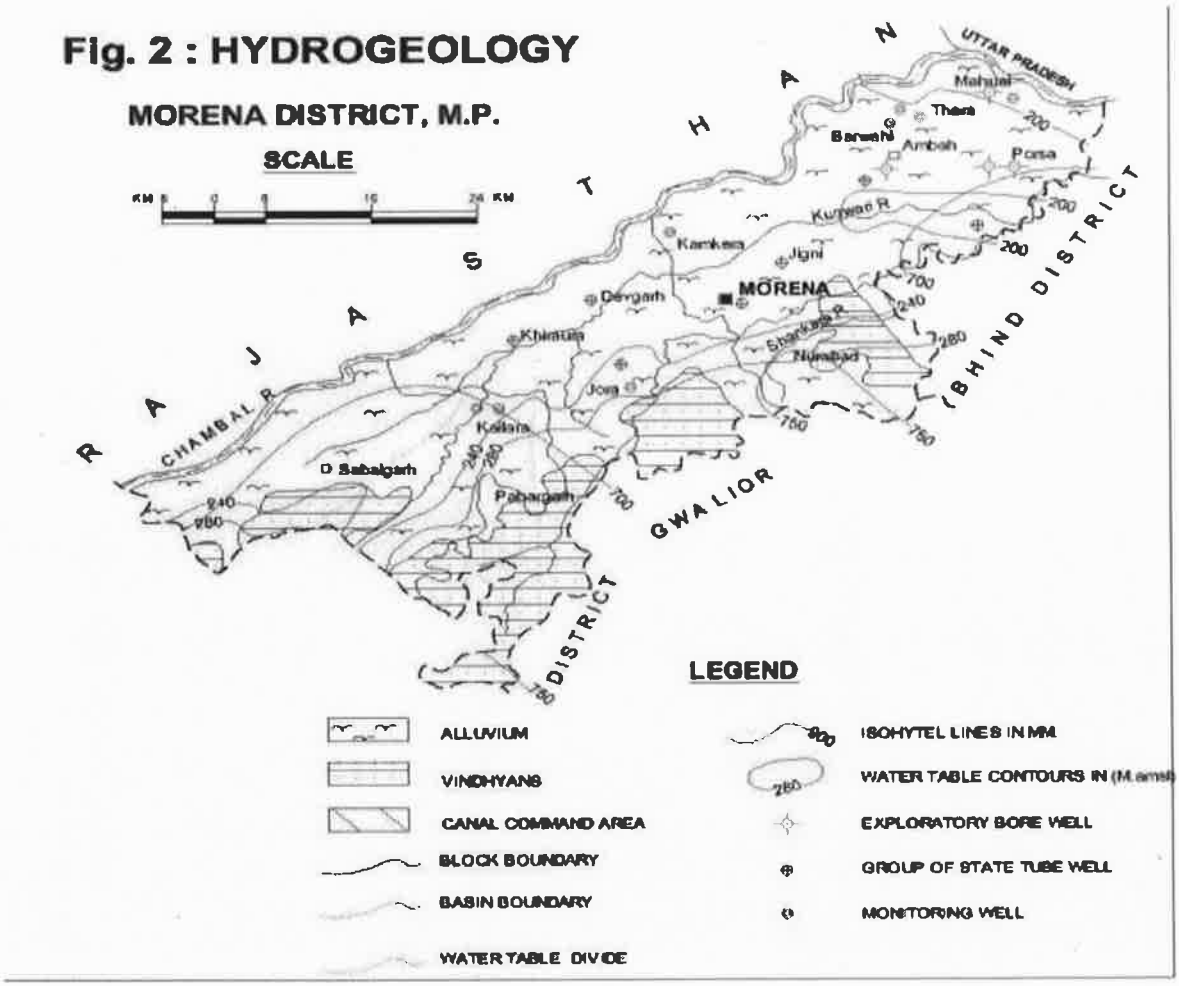
Irrigation Practices

Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels.

Surface Water and Ground water scenario of the District

Ground Water SCENARIO

Hydrogeology The hydrogeological map of the district is presented as figure 2.



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and 3 pillow structures, mud cracks, clay balls, concretions, load and flute structures etc. The general strike of the bedding is North-South to NNE-SSW with varying dips of 4 to 10 degrees towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW-SE, NE-SW, E-Wand NNE-SSW with vertical dips. (GSI) The sandstones are hard and compact with siliceous matrix and as such are devoid of primary porosity and permeability. But wherever they are weathered and jointed secondary porosity and permeability is developed and made them water bearing. It is observed that sandstones in general are poorly and moderately weathered (2 to 4 metres) and at places they are jointed and do not posses sufficient ground water potential. Ground water occurs under water table condition and exists in weathered portions and in jointed zones. The shales are fine grinded and compact and are porous but are not permeable. At most places in most of the area shales are devoid of ground water but near river beds they form water bearing due to the presence of bedding planes and joints. Ground water occurs under water table conditions. The water holding capacity in alluvium mainly depends upon the thickness and the aerial extent. It is found that along the

banks of Chambal and Kanwari rivers, gully erosion is very common and spread over 1 to 2 Km away from the banks. It is more clayey and silty and as such has poor to moderate water bearing capacity. One or two aquifers are present in the formation and ground water is found to be under phreatic as well as semi confined to confined conditions. Central Ground Water Board had constructed 11 exploratory wells and 8 observation wells in the area. The details of aquifer zones, discharge, water levels and aquifer parameters etc., are given in Table 1. It is observed that Alluvium forms prolific aquifer whereas Vindhyans forms poor aquifer in the district.

4.1.1 Water levels

Water level data, including historical data, are essential not only to know the present ground water conditions but also for forecasting future trends in response to ground water reservoir operations. CGWB is monitoring 17 NHS wells in the district. Pre and Post monsoon depth to water level maps are prepared and presented (Fig 3 &4) 4.1.1.1 Pre- monsoon (May, 2012) Pre monsoon depth to water levels map is presented as figure 3. A perusal of map reveals that the depth to water level ranges from less than 5.6mbgl to 31.78 mbgl in the district. However, in major part the DTW is less than 28 mbgl. DTW of more than 30 mbgl was observed in an isolated patch in north eastern par

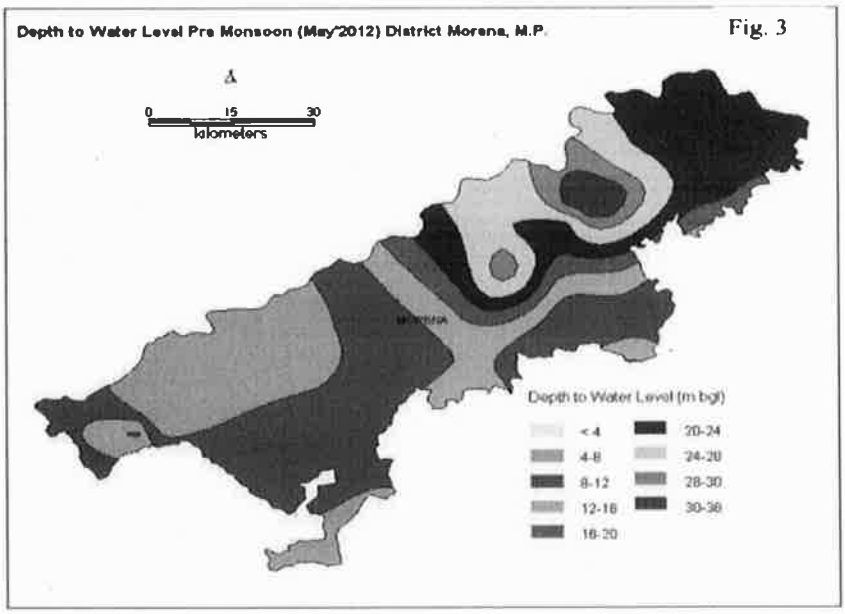
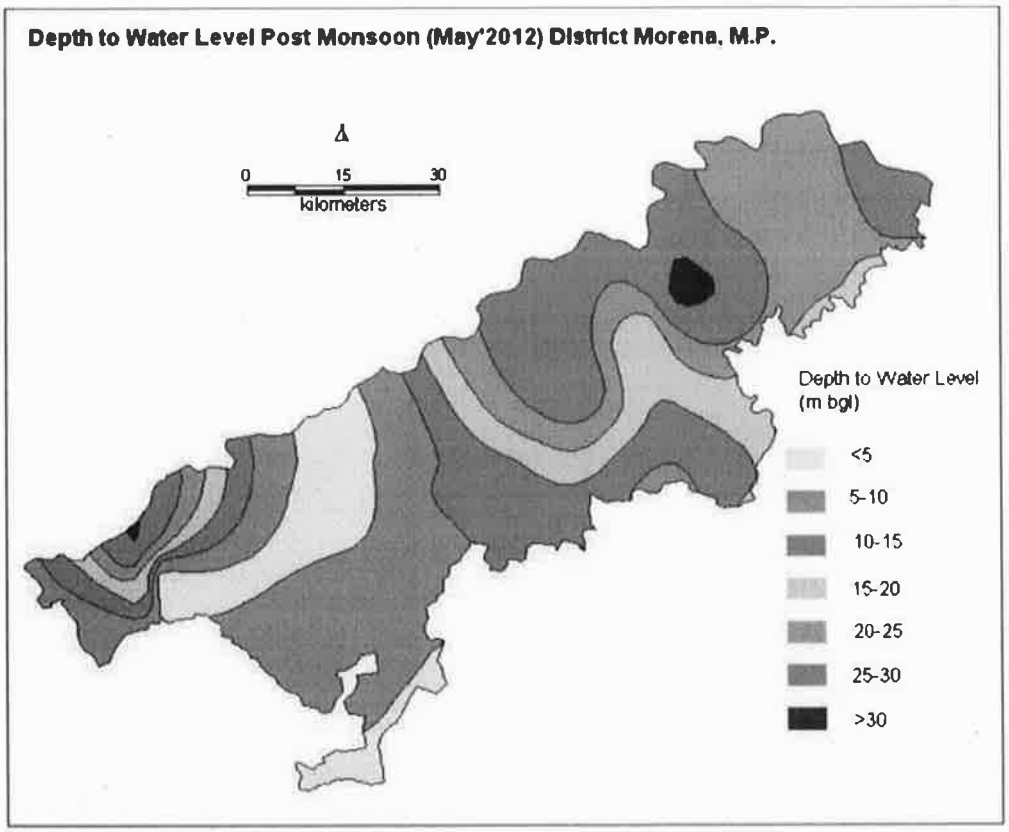


Fig. 3

Post- monsoon (Nov. 2012)

Post monsoon depth to water level map is presented as figure 4. during post monsoon period, water levels ranges from 1.60 mbgl to 31.78 mbgl. However, in major part the depth to water level is less than 30 mbgl. Deeper water level of more than 30 mbgl is observed in two small isolated patches one each in western part and in north easten part. Long term water level trend for 10 years (2003-10) shows that there is overall decline in the area. The decline ranges from 0.61 cm/year to 106 cm/year.



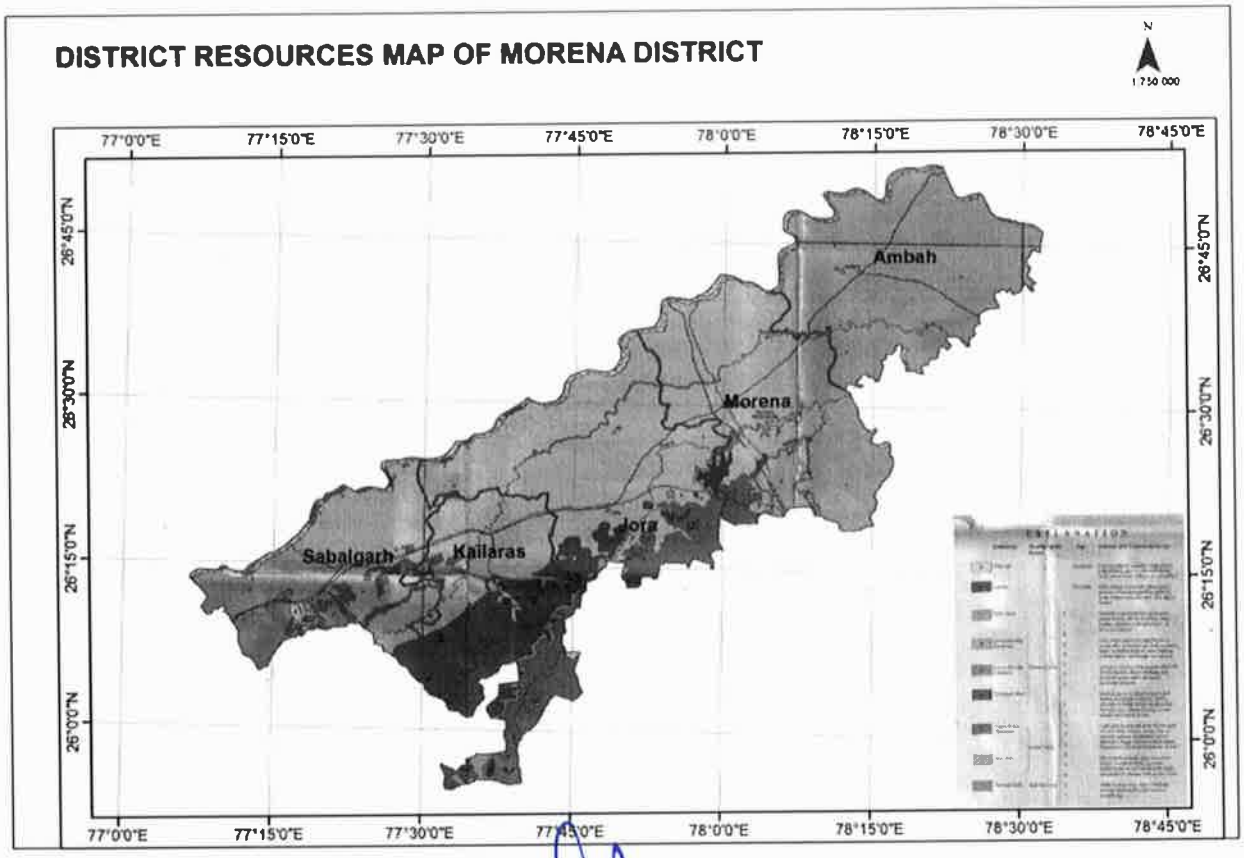
4.2 Ground Water Resources (2009)

Morena district is characterized by alluvial formation, Vindhyan Formation and Gwalior Series. Dynamic ground water resources of the district have been estimated for base year -2008/09 on block-wise basis (Table 2). There are seven assessment units (block) in the district which fall under command (48 %) and non-command (52 %) sub units. Non command areas of Kailaras , Morena and Sabalgarh blocks of the district are categorized as semi critical . The highest stage of ground water development is computed as 74 % in Morena block. The net ground water availability in the district 64,244 ham and ground water draft for all uses is 27,597 ham, making stage of ground water development 43% as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 34,232 ham.

4.3 Ground Water Quality

Ground water quality in Morena district is assessed annually by CGWB on the basis of analysis of ground water samples collected from hydrograph stations located in the district. The Electrical conductivity ranges from 550 to 2080 µS/ cm at 25°C. The Fluoride is within permissible limits and ranges from 0.06 mg/l to 1.4 mg/l. The Nitrate ranges from 2.5 mg/l to 298 mg/l.

Mineral Map of the District



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खनिज कार्यालय (खनिज शाखा) मुरैना।

Total Mineral Reserve available in the District

Total mineral reserve available in the district

S. no.	Mineral Name	Total Mineral Reserve
1.	Crusher gitti	5494402 Cu. M.
2.	Flagstone	310575 Cu. M.
3.	Murrum	260125 Cu. M.
4.	Clay For Bricks	567000 Cu. M.
5.	Khanda	226807 Cu. M.
6.	Boulder	19726 Cu. M.

Quality/Grade of Mineral available in the District

There is quality of mineral available as a minor grade is present in the Morena District. As we have assessed mineral availability of the district is fare and acceptable quality and it has commercial value. There are various minerals and ore available in the district as it is given in our next chapter

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Demand and supply of the Mineral In last three Year

Minerals Name	Year wise Supply according to Demand			Remark
	2018-19	2019-20	2020-21	
				MinorMineral
Flag stone	37240	34922	39395	Mainly it is used for Construction purpose. Flagstone supply is on the basis of demand on the market
Khanda	18890	9896	14061	
Boulder	0	2700	45500	
Murum	3754	28275	40533	It is a mixture of minerals, organic matters, gravels, rock particles etc. Murrum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.
Stone/Gitti	239462	400108	973864	minor mineral such as stone /Gitti , sand are supply basis of demand on the market
Sand	0	0	0	

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जिला कार्यालय (खनिज शाखा) मुरैना

Details ofEco– Sensitive Area,

This Sanctuary was established in 1978 and is spread across an area of 435 sq km. The National Chambal Sanctuary is famous for the rare gangetic dolphin. Apart from which, the other inhabitants of the sanctuary include magar (crocodile) and gharial (alligator), chinkara, sambar, nilgai, wolf and wild boar. As the Sanctuary is basically situated in the river, fairs are organised on every religious occasion, such as Somvati Amavasaya, Lunar Eclipse Solar Eclipse, Ganga Dashhara etc. The fairs are organised at different Ghats of the river Chambal, Fort of Ater, Fort of Pinahat, Padhawali Archeological spot of Kuntalpur, Kakanmath temple. Other destinations close to the Sanctuary are Agra, Gwalior, Kakanmath temple, Bird Sanctuary Bharatpur, etc. Forest rest houses are available for accommodation at Etawah, Bah, Baiwan, Chakar Nagar and Sarson.

जिला कार्यालय (खनिज शाखा) मुरैना

Impact on the Environment due to Mining Activity

Generally, the Environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project, secondary impacts are those, which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the baseline environmental status for the entire ROM which is proposed to exploit from the mines.

Air

Mining Operations are carried out by opencast semi mechanized/ Mechanized method, dust particles are generated due to various activities like, Excavation, Loading, handling of mineral and transportation. The air quality in the mining area depends upon the nature and concentration of emissions and meteorological conditions. The major air pollutants due to mining activity includes: -

- Particulate Matter (Dust) of various sizes.
- Gases, such as, Sulphur Dioxide, Oxides of Nitrogen, Carbon Monoxide etc., from vehicular exhaust.
- Dust is the single Air pollutant observed in the open cast mines. Diesel operating drilling machines, small amount of blasting and movement of machinery/ vehicles produce gaseous (NO_x and SO_x) emissions, usually at low levels. Dust can be of significant nuisance surrounding land users and potential health risk in some circumstances.

Water Impact

The mining operation leads to intersection of the water table which causes ground water depletion. Due to the interruption surface water sources like River, Nallah, Odai etc., surface water system, Drainage pattern of the area is altered.

Noise

Noise pollution is mainly due to operation of Machineries and occasional plying of machineries. These activities will create Noise pollution in the surrounding area.

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Land Environment

The topography of the area will change; due to the Topographical changes the entire Eco system will be altered.

Flora and Fauna

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics. Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and floral status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

Remedial Measure to mitigate the impact of Mining on the Environment:

Air

Mitigation measures suggested for air pollution controls are based on the baseline ambient air quality of the area

The following measures are proposed to be adopted in the mines such as,

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be considered.
- Transport of material in trucks covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine areas.
- Information on wind direction and meteorology will be considered while planning, so that pollutants, which cannot be fully suppressed by engineering technique, will be prevented from reaching the nearby agriculture area.
- Comprehensive green belt around overburden dumps has to be carried out to reduce to fugitive dust emissions in order to create clean and healthy environment.

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जिला कार्यालय (खनिज शाखा) मुरैना

Water

- Construction of garland drains to divert surface run-off into the mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.

Noise

- Periodic maintenance of machinery, equipment shall be ensured to keep the noise generated at minimum.
- Development of thick green belt around mining area and haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities. Workers and operators at work site will be provided with earmuffs.
- Conducting periodical medical check-up of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise level effects.
- Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficiency of adopted control measures.
- During the blasting, optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate as approved by Director of Mines safety.

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Land Environment

- Riparian vegetation should be developed that doesn't stress with changes over short period of time.
- Safety barrier zone should be left out in order to prevent quick sand condition or rapid erosion of river banks.
- Development of suitable greenbelt in safety and barrier zone
- Waste dumps should be stabilized taking proper measures
- Degradation of land environment should be checked by briefing the worker about routine works regarding cleanliness and proper mining measures.
- No such infrastructure or any construction should be done that might hinder the natural flow of the river.

Biological Environment

- Development of gap filling saplings in the safety barrier left around the quarry area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy leaves on the inactive mined out upper benches.
- Development of dense poly-culture plantation using local flora species in the mining area at conceptual stage.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.
- Construction of garland drains and settling tank to arrest silt wash off from lease area.
- Construction of retention walls around lower boundary of mining area to arrest silt wash off and roll down boulders.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.

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Reclamation of Mined out area

There is no proposal for backfilling, reclamation and rehabilitation. The quarry pit should be fenced by barbed wire to prevent inherent entry of public and cattle. The quarried out pit will be allowed to collect rain and seepage water which act as a reservoir for storage. The Quarried pit may be used as water reservoir for both Domestic and Agriculture purpose, in case of stone mining and inland sand mining. For River sand mining, the quarry should be demarcated using pillars and left for replenishment during monsoon season. No mining should be undertaken during monsoon period to avoid accidents and mishaps.

Details of the area of where there is cluster of mining lease viz no. of mining lease location.

Details of the cluster of Mining Lease

S. No.	Tehsil	Name of the Lease	Khasra No	Area in ha.
1.	KULHOLI	SABALGRAH	1605	5.700

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Sand Replenishment Plan and Projections

Sand Replenishment Assessment

The process of sand replenishment is highly dependent upon the rainfall received in the catchment areas of rivers and their tributaries and velocity of river. It is a dynamic process. Thus it is difficult to predict, what quantity of sand may be reclaimed/ replenished by river. Because, in case of less rain, less water in the river, there may be less erosion and transportation may also be minimal and as a result deposition too will be less. Moreover, in case of floods, the sudden gush of water may force the change in river course, thus old sites of sand deposition may not be relevant. Thus, the above figures may just be a mere prediction, based on the production in the preceding years. More so, practically, it is not possible that in such a short period, single person can visit each spot within the district and determine how much quantity of sand may be replenished every year. The data narrated in the report, regarding annual deposition of sand and associated aggregates and minable mineral potential is concerned, is only an estimation based on the production data provided by the district mining office. Thus, the figures may vary from area to area and year on year basis. Therefore, this document is not a static one but have to be a dynamic one, the figures of which may vary with respect to the area under question for which the prior environmental clearance will be sought.

In order to establish a safe extraction limit, such that the extracted sand gets replenished annually, a replenishment study is to be carried out. For this purpose, the river bed RL at selected points in the dry portion of riverbed will be measured during pre-monsoon period and again during post- monsoon period in order to assess the annual quantum of sand deposition. If it is observed that, there is an average increase in riverbed RL, it shows that it is due to deposition of sand during the monsoon flow of the river and by multiplying it with the area of lease one can measure the quantity of sand replenished every year. Sand quarrying from the river bed will have both positive and negative impacts.

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जिला कार्यालय (खनिज शाखा) मुरैना

NEGATIVE IMPACTS

It includes destruction of natural river course, sand erosion, bank erosion, bank cutting and widening and deepening of river bed, change in hydrological status and recharging conditions and destruction to closely linked flora, fauna and aquatic life.

POSITIVE IMPACTS

Employment and socio-economic status of the habitats living besides the river depends on sand mining industries. Construction of concrete infrastructure, roads and some other related activities depends on the river bed sand. Continuous accumulation of sand ultimately leads to the reduction in water carrying capacity of the river leading excessive flood in the river. Sustainable extraction of sand from river will lead to overcoming the problem.

Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.

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जिला कार्यालय (खनिज शाखा) मुरैना

Need for Sand Replenishment Study and Factors tobe considered

Environmental status of the mined out area may be affected badly if proper care is not taken to ensure sustainable extraction of sand from river bed. Proper study of the following factors must be taken into consideration to reveal the actual potential of sand deposition in river course after completion of periodical excavation annually. The main factors to be considered for the study of the replenishment potential of particular river course are:

Formation of sand comprises of the following:

- Catchment area and geographical strata
- Erosion, weathering and transportation of load
- Climatic conditions, precipitation
- Geomorphology, physiographic manmade structures and activity details

Deposition/sedimentation of material or sediment yield depends upon several factors like:

- Catchment area
- Span of river/ flood plain
- Travelling distance of suspended particles
- Slope/gradient/ depth of water channel;/meandering of river
- Geology traversed
- Climatic conditions
- Tributaries/ confluence
- Type/ stage of river and flow velocity
- Flow during lean period

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जिला कार्यालय (खनिज शाखा) मुरैना

Risk Assessment & Disaster Management Plan:

The Disaster Management Plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/induction conducted by the respective department from time to time.

General Responsibilities during an Emergency

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

Co-ordination withLocal Authorities

The mine manager who is responsible for emergency will always keep a jeep ready at site. In case any eventualities the victim will be taken to the nearby hospitals after carrying out the first aid at site. A certified first aid certificate holder will be responsible tocarry out the first aid at site. The mine manager should collect and have adequate information of the nearby hospitals, fire station, police station, village Panchayat heads, taxi stands, medical shop, district revenue authorities etc., and use them efficiently during the case of emergency.

Disaster Management Plan

The objectives of DMP are to describe the company's emergency preparedness, organization, the resource availability and response actions applicable to deal with various types of situations that can occur at mines in shortest possible time.

Thus, the overall objectives of the emergency plan are summarized as: -

- Rapid control and containment of Hazardous situation
- Minimum the risk and impact of event/ accident
- Effective prevention of damage to property.
- In order to achieve effectively the objectives of emergency planning, the critical elements that form the backbone of Disaster Management Plan (DMP) are: -

- Reliable and early detection of an emergency and immediate careful planning.
- The command, co-ordination and response organization structure along with availability of efficient trained personnel.
- The availability of resources for handling emergencies.
- Appropriate emergency response action.
- Effective notification and communication facilities.
- Regular review and updating DMP.
- Training of the concerned personnel.
- Steps taken for minimizing the effects may include rescue operations, first aid, evacuation, rehabilitation and communicating promptly to people living nearby.

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of Mines, State Government.

Details of the Occupational Health issues in the District:

Open cast method involves dust generation by excavation, loading and transportation of mineral. At site, during excavation and loading activity, dust is main pollutant which affects the health of workers whereas environmental and climatic conditions also generate the health problems. Addressing the occupational health hazard means gaining an understanding of the source (its location and magnitude or concentration), identifying an exposure pathway (e.g., a means to get it in contact with someone), and determination of likely a receptor (someone receiving the stuff that is migrating).

Occupational hazard due to open cast mining mainly comes under the physical hazards. Possible physical hazards are as below: -

Physical Hazards due to Mining Operations:

Following health related hazards were identified in open cast mining operations to the workers:

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Light: - The workers may be exposed to the risk of poor illumination or excessive brightness.The effects are eye strain, headache, eye pain and lachrymation, congestion around the cornea and eye fatigue. In present case, the mining activity is done during day time only.

Heat and Humidity: - The most common physical hazard is heat. The direct effects of heat exposure are burns, heat exhaustion, heat stroke and heat cramps; the indirect effects are decreased efficiency, increased fatigue and enhanced accident rates. Heat and humidity are encountered in hot and humid condition when temperatures and air temperatures increase in summer time up to 46.10C or above in the river bed mining area.

Eye Irritation: - During the high windy days in summer the dust could be the problems for eyes like itching and watering of eyes.

Respiratory Problems: - Large amounts of dust in air can be a health hazard, exacerbating respiratory disorders such as asthma and irritating the lungs and bronchial passages.

Noise Induced Hearing Loss: - Machinery is the main source of noise pollution at the mine site.

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जिला कार्यालय (खनिज शाखा) मुरैना

Plantation and Green Belt Development in respect of lease granted in the District:

Mining activities result in pollution of the environment. This requires protection of our environment. Plantation is the oldest technology for the restoration of the land damaged by the human activities as well as air pollution.

Trees are highly suitable for the detection and monitoring of the air pollutants and have been effectively used at various places

By planting trees we can achieve the dual purpose of bio aesthetics as well as mitigation of pollution. Proper planning and plantation scheme depends upon the magnitude and type of pollution, selection of pollution tolerant and dust capturing plants

The plants should be ever green, large leaved, with rough bark, ecologically compatible, with low water requirement, requiring minimum care, capable to absorb pollutants, pollutant resistant, agro climatically suitable, fast growing, free from wind throw and breakage and with high pollution tolerance index. The specious should be suitable to the climate, topography and soil. A minimum two rows of plantation will be carried out to minimize the effect of pollution. This would attenuate the pollutants level.

However the afforestation should always be carried out in a systematic and scientific manner. It is proposed to carry the plantation along the river bank, both side of approach roads by considering 80% rate of survival. Trees like Karanj, Sheesham, Mango, Neem and some other varieties will be planted in consultant with forest department.

Recommended Plant species for green belt development/plantation

S.No.	Botanical Name	Family	Common Name
1.	Azadirachta indica	Meliaceae	Neem
2.	Ficus religiosa	Moraceae	Pipal
3.	Dalbargiasissoo	Fabaceae	Shisham
4.	Terminalia elliptica	Combretaceae	Saja
5.	Cassia Fistula	Caesalpiniaceae	Amaltas
6.	Sanegalia catechu	Mimosaceae	Khair
7.	Terminalia arjuna	Combretaceae	koha
8.	Bombax ceiba	Malvaceae	Semal
9.	Diospyros melanoxylon	Ebenaceae	Tendu
10.	Madhuca indica	Sapotaceae	Mahua
11.	Syzygium cumini	Myrtaceae	Jamun

Plantation has been done by project proponent on Barrier Zone, Non Mining Area, Approach road, nearby river bank and ravines etc. as per the suggestions of the authority.

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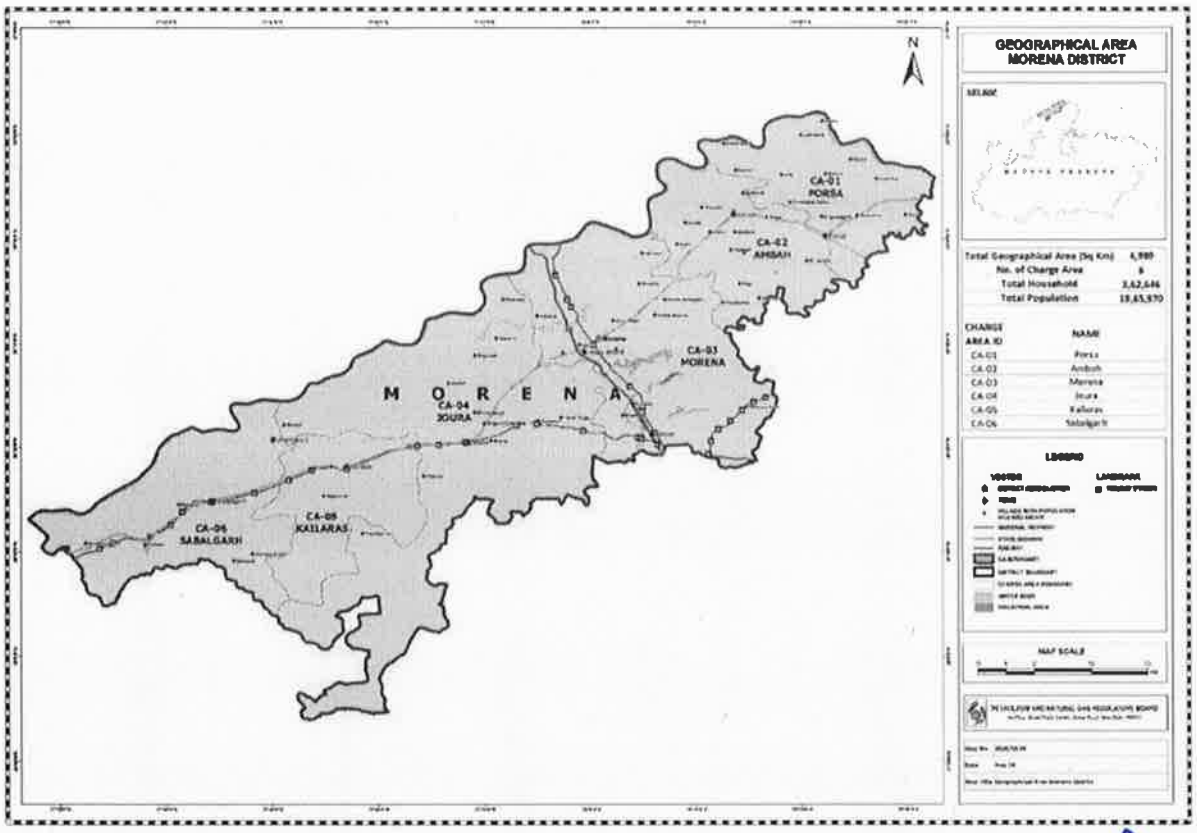
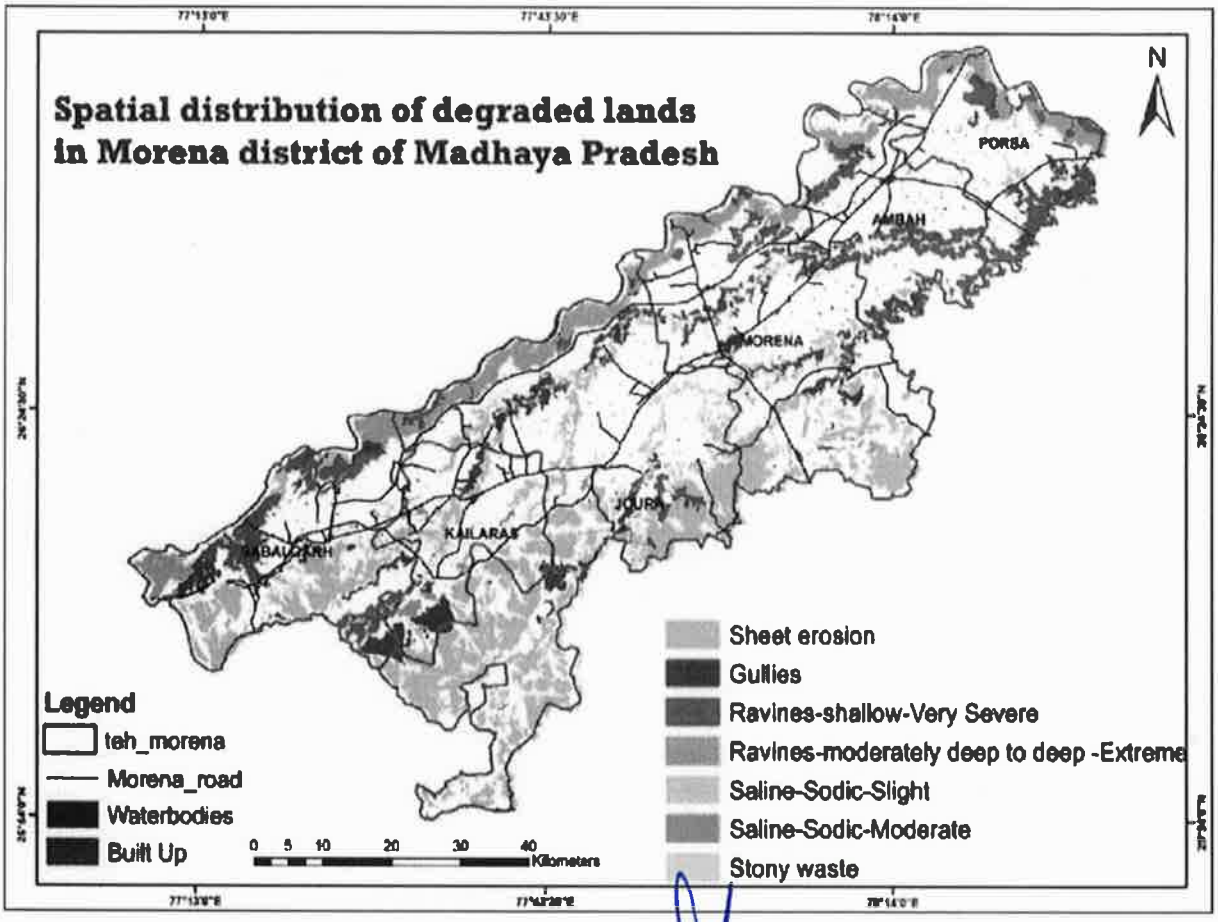
जिला कार्यालय (खनिज शाखा) मुरैना

D.S.R. RELATED MAP DISTRICT MORENA



State Level Environment Assessment Authority, (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal

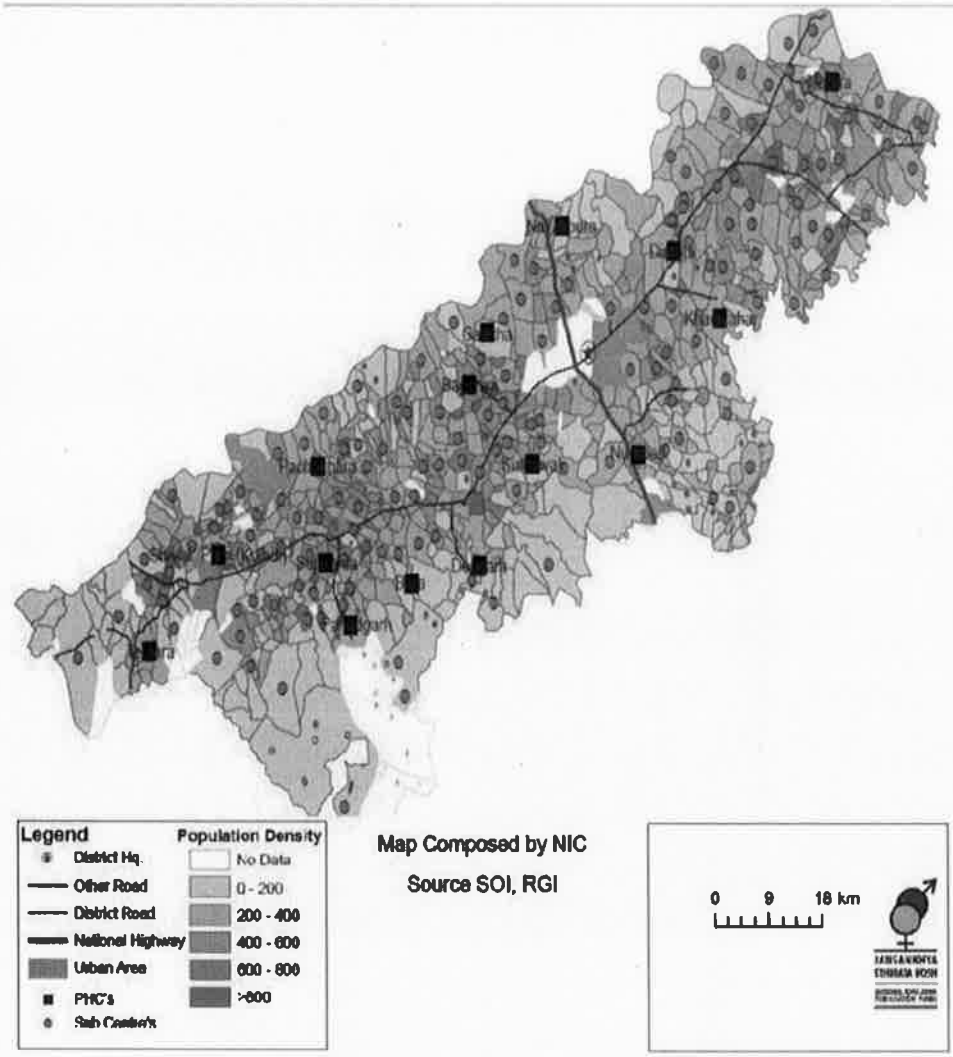
जिला कार्यालय (खनिज शाखा) मुरैना



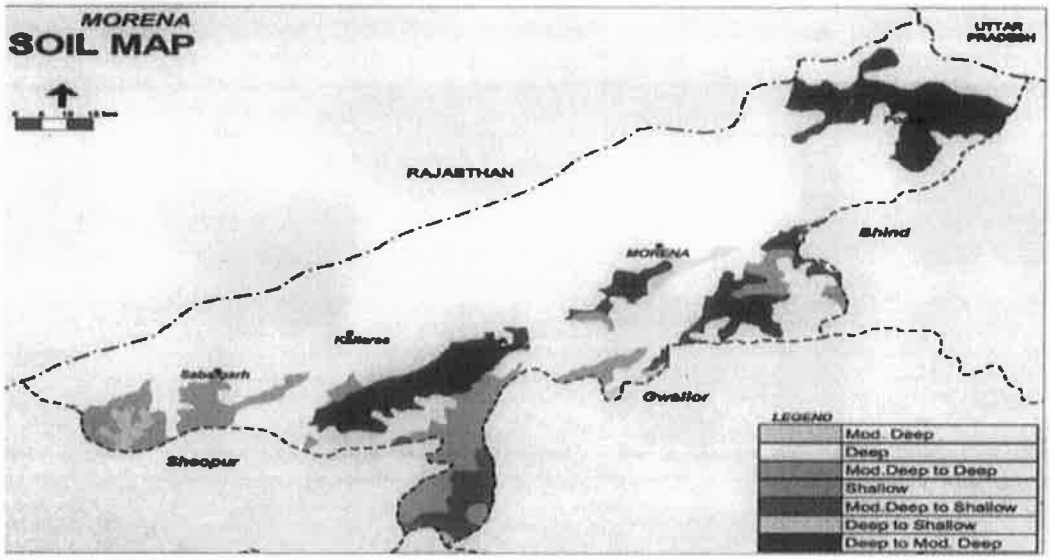
State Level Environment Impact Assessment Authority, M.P. (SEIAA)

E-5, Arera Colony, Bhopal (M.P.)

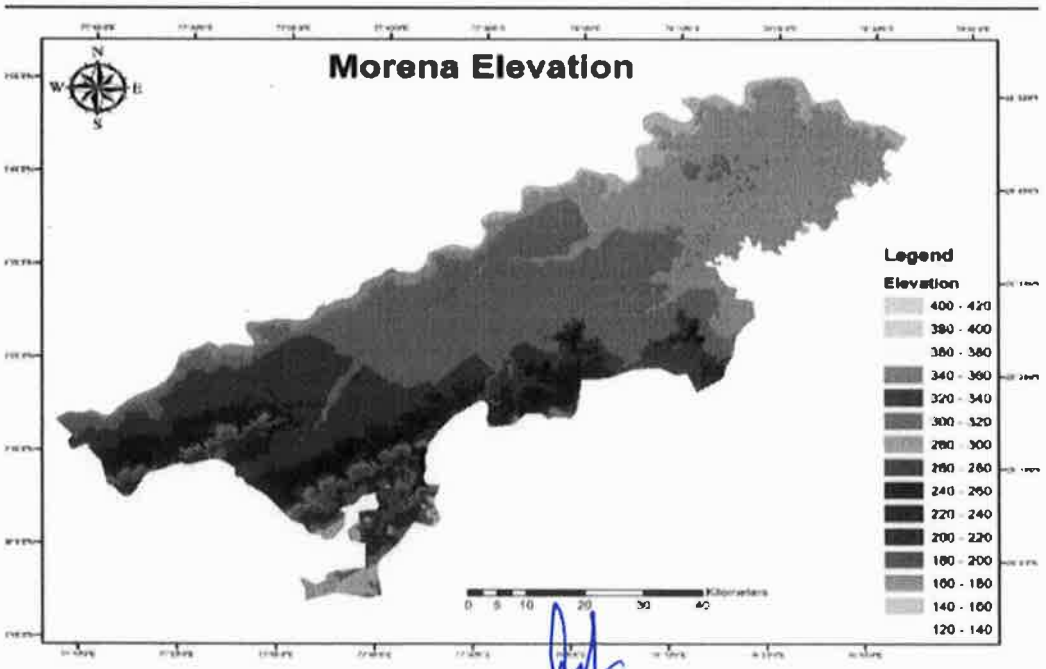
जिला कार्यालय (खनिज शाखा) मुरैना



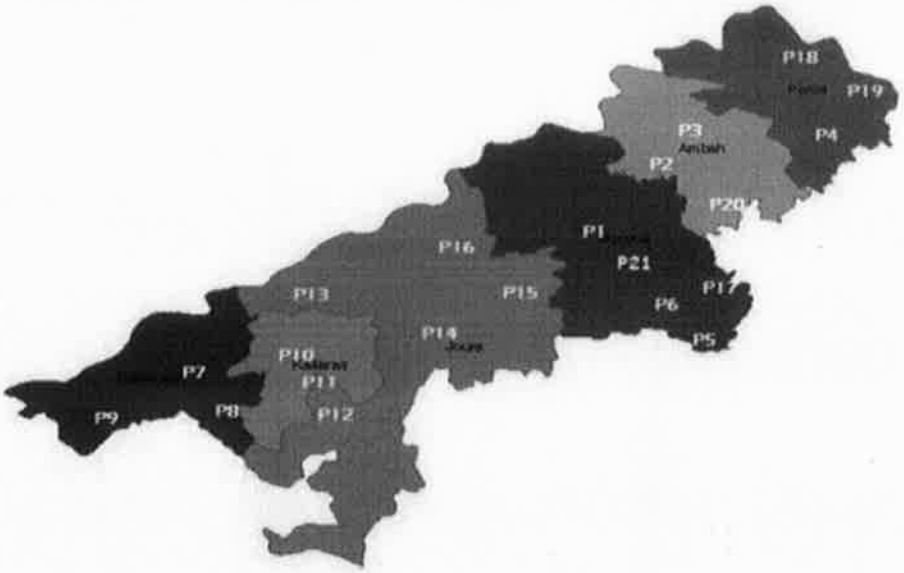
Map 8.1.6 showing population density, PHCs and Sub Centres in Morena, Blood bank is present in the District Headquarter shown above



Map 8.1.4 Soil profile map of Morena



Map 8.1.5 Elevation map of Morena



Legend

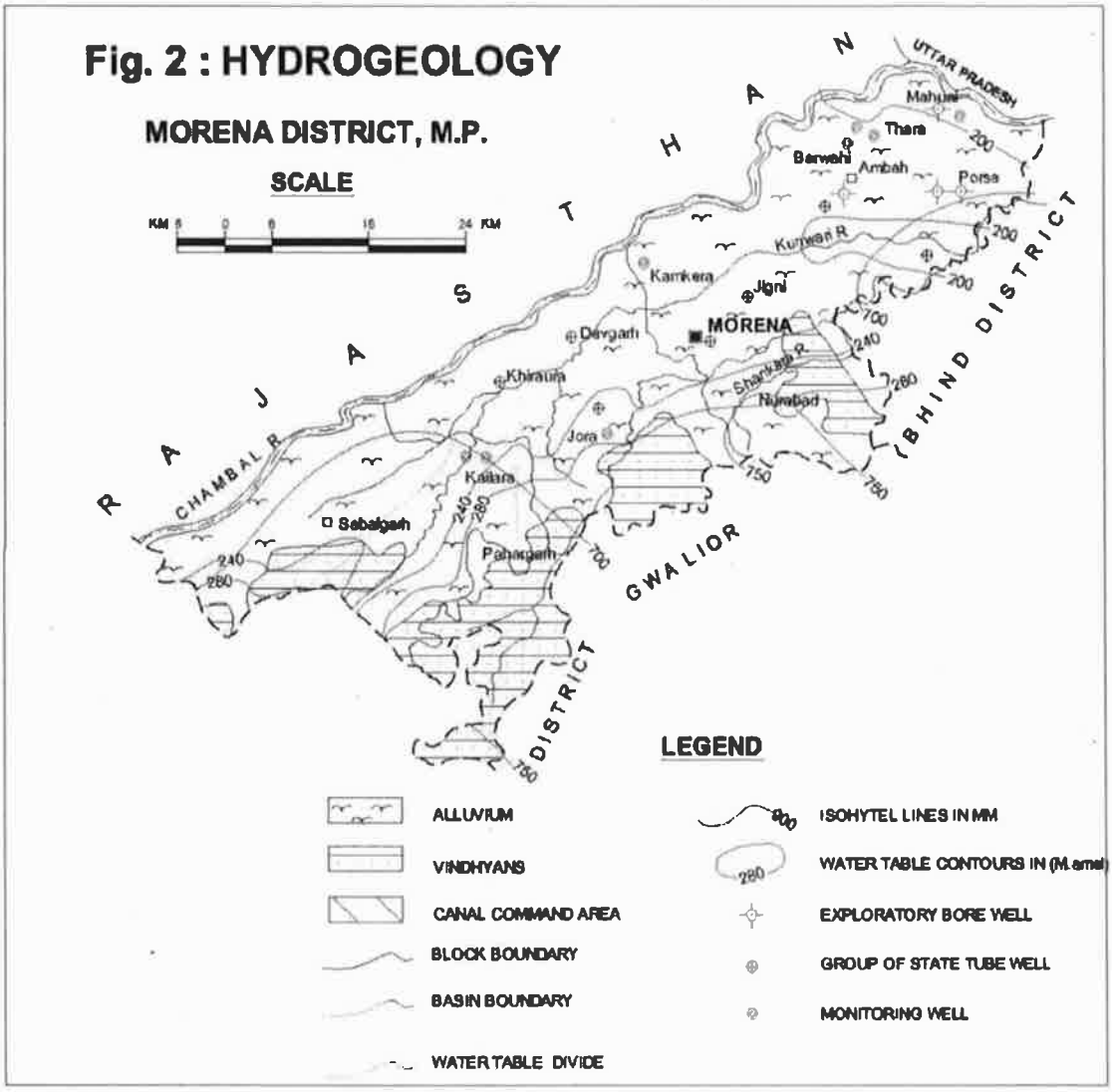
P1	Morena (Kotwali and Civil Lines)	P11	Nirar
		P12	Pahargarh
P2	Dimni	P13	Chinnoni
P3	Ambah	P14	Joura
P4	Porsa	P15	Sumawali
P5	Banmore	P16	Bagchini
P6	Noorabad	P17	Rithora
P7	Sabalgarh	P18	Mahua
P8	Rampur	P19	Nagara
P9	Tentra	P20	Sithonia
P10	Kailaras	P21	Matabasoi

Map 8.1.7 Showing the Police Thanas in Morena district

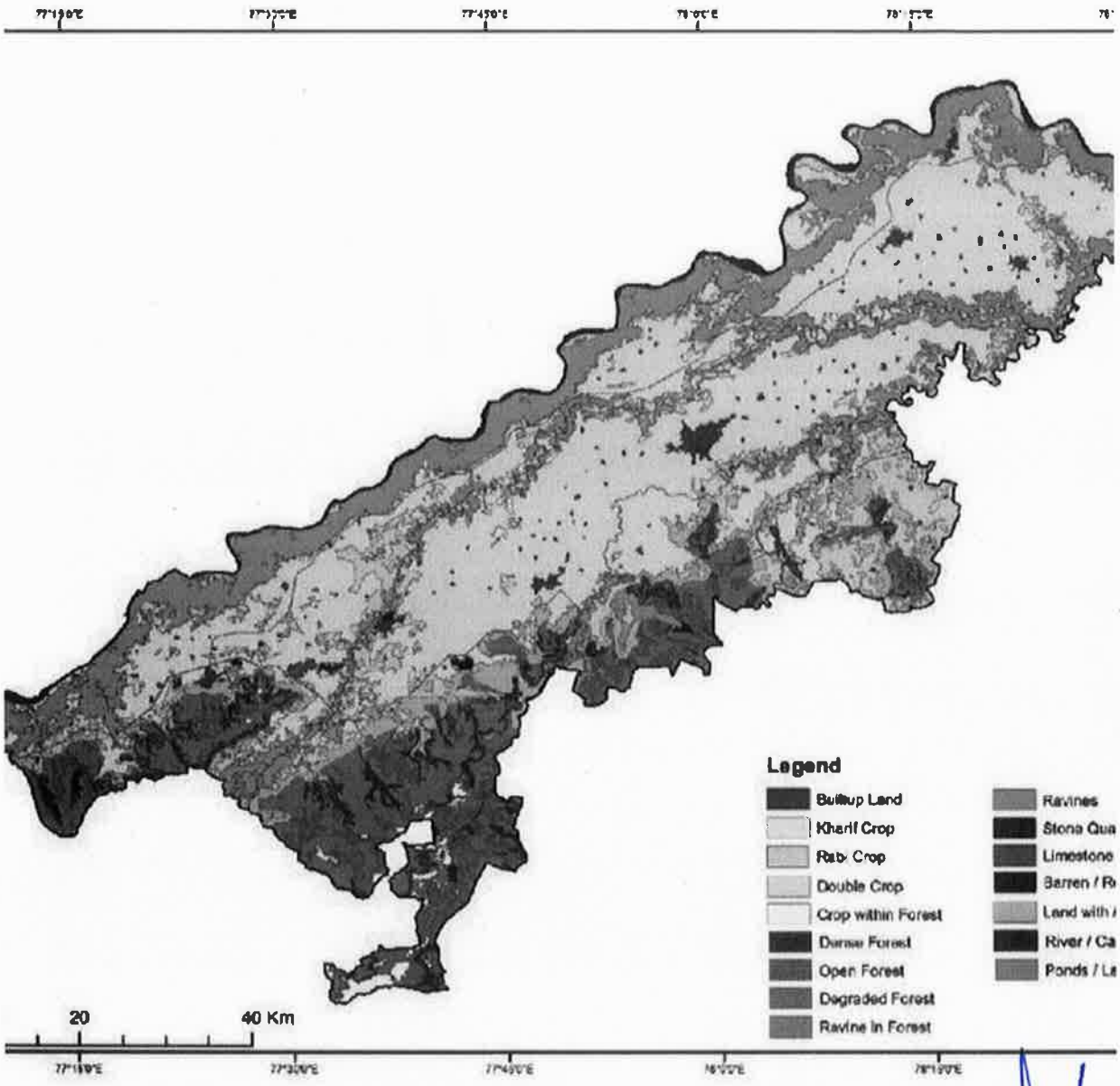
4.0 GROUND WATER SCENARIO

4.1 Hydrogeology

The hydrogeological map of the district is presented as figure 2.



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and



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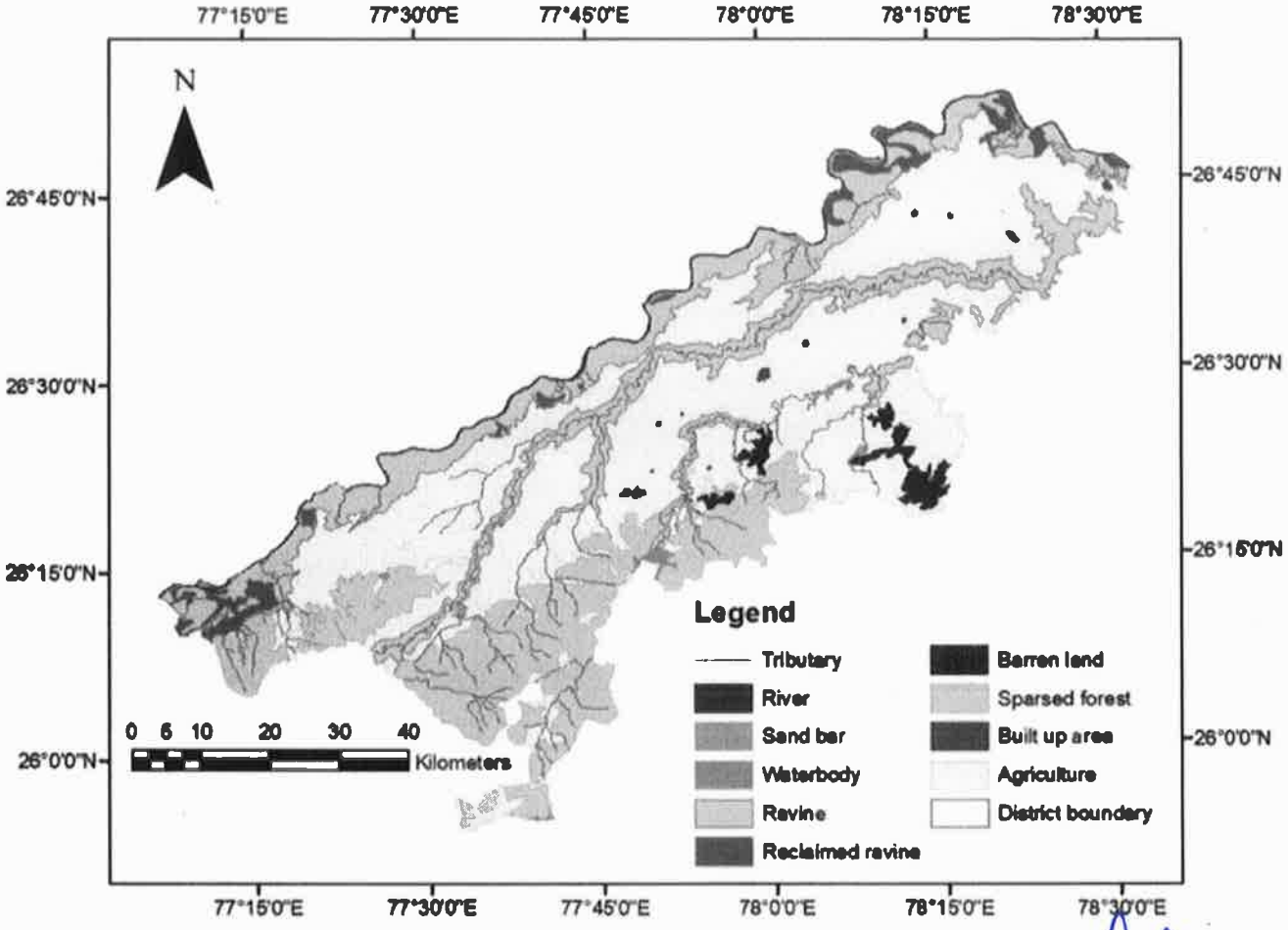
जिला कार्यालय (खनिज शाखा) मुरैना

Land use /Land cover Map of Morena District 1974



State Level Environment Impa
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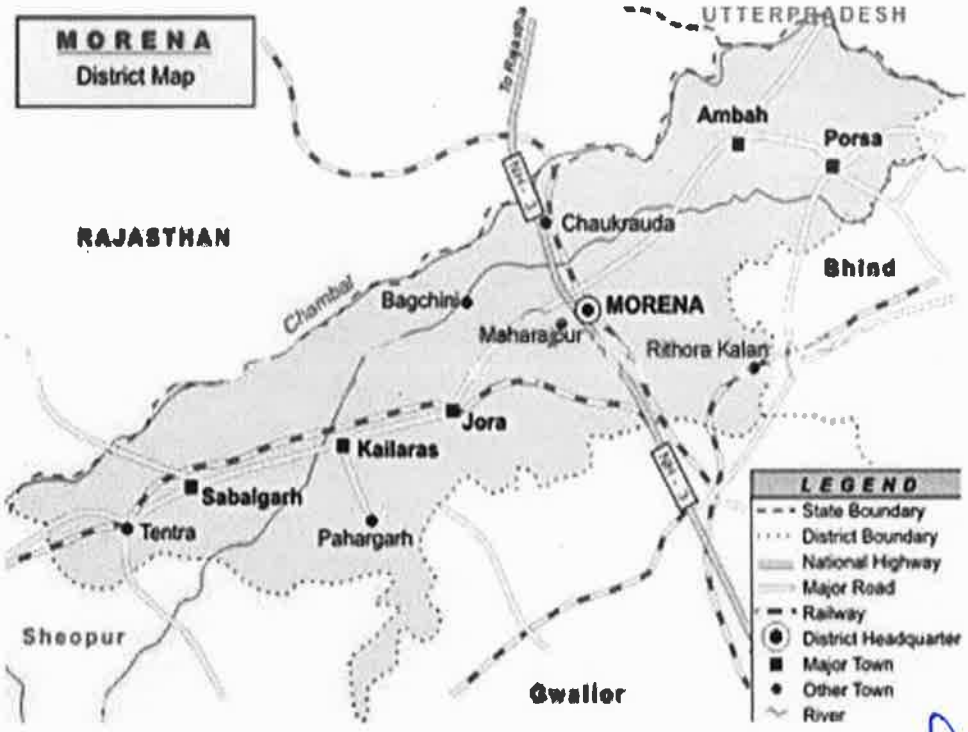
pal (M.P

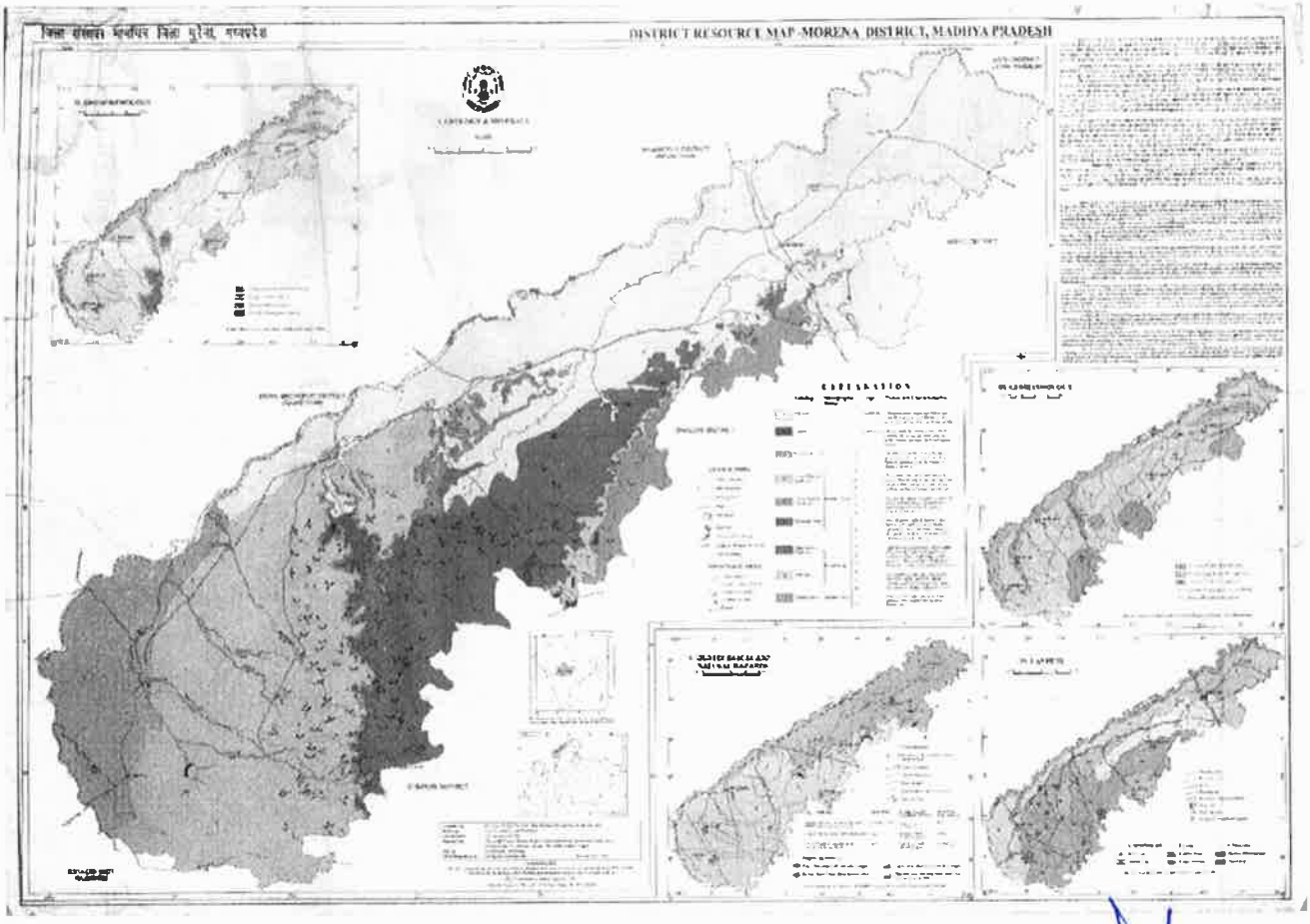
जिला कार्यालय (खनिज शाखा) मुरैना



Map 8.1.1 District Map of Morena

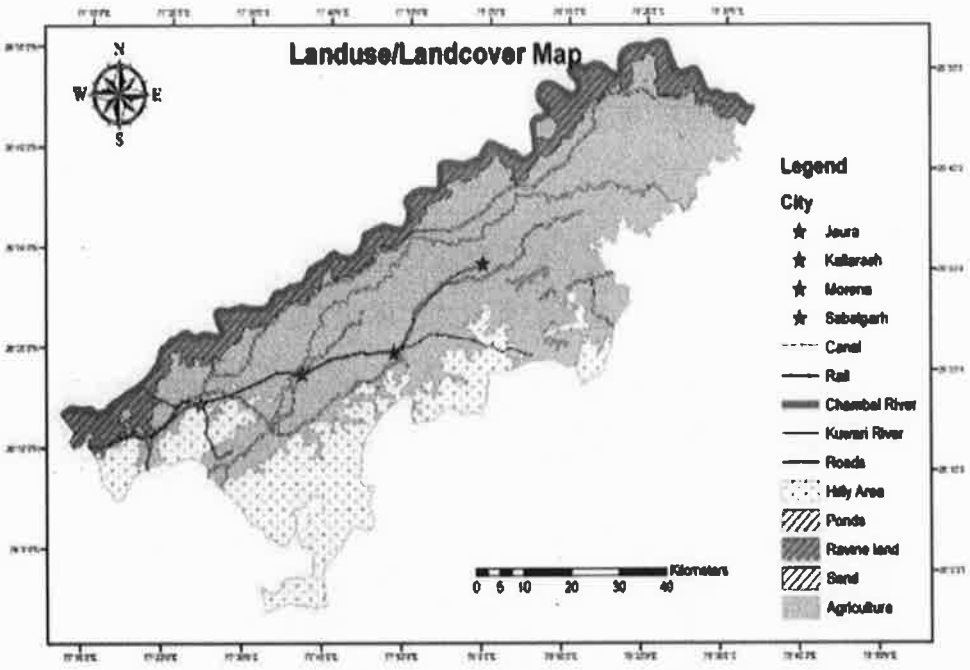
State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

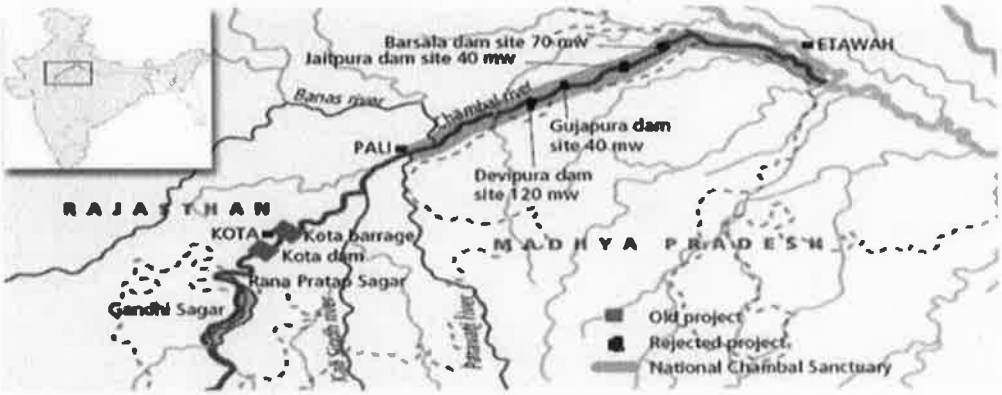


State Level Environment Impact Assessment Authority, M.P. (SEIAA)

जिला कार्यालय (खनिज शाखा) मुरैना



Map 8.1.2 Land-use/Land-cover Map of Morena



Map 8.1.3 Showing the Chambal River, National Chambal Sanctuary and Kota dam and barrage – flood in the Chambal River valley areas occurs when Chambal River overflows due to release of excess water into the river by the Kota barrage

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State Level Environment Impact Assessment Authority, M.P. (EPCC)

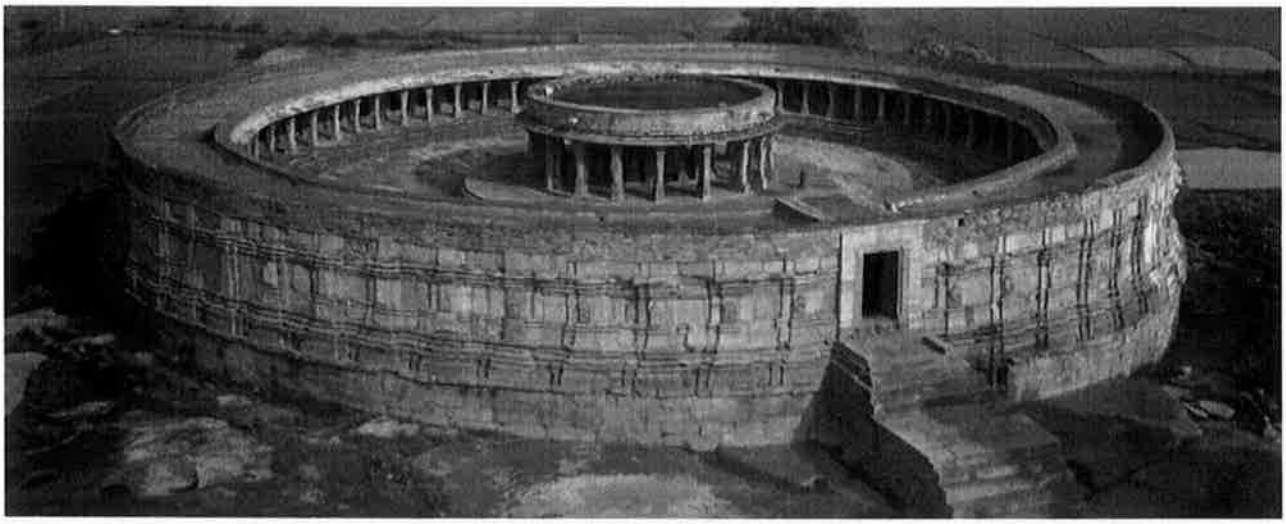
(M.P.)

जिला कार्यालय (खनिज शाखा) मुरै...

GOVERNMENT OF
MADHYA PRADESH

DISTRICT SURVEY REPORT OF MORENA

FOR MINOR MINERAL- Soil (Ordinary clay for Bricks)



SUB DIVISIONAL COMMITTEES,
MORENA(M.P)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

क्रमांक/खनिज/DSR/2022–23/996 मुरैना,दिनांक 16.09.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC)
म.प्र. प्रदूषण नियंत्रण बोर्ड,
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– संशोधित जिला सर्वेक्षण रिपोर्ट **(DSR)** मय निर्धारित फॉर्मेट अनुसार तैयार कर प्रस्तुत करने बावत्।

संदर्भः– 1–कार्यालयीन पत्र क0/खनिज/DSR/2022–23/953 मुरैना दि. 30.08.2022।
2–वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022।

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कृपया संदर्भित पत्र का अवलोकन करने का कष्ट करें, जिसके द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662/2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेष दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020 के तहत् रेत खनिज से भिन्न अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) के लिये तैयार कर अग्रिम कार्यवाही हेतु भेजी गई थी।

आपके द्वारा वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022 में दिये निर्देशानुसार मुरैना जिले की अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) पृथक–पृथक जिला सर्वेक्षण रिपोर्ट (D.S.R.) मय निर्धारित फॉर्मेट (16 बिन्दुओं) अनुसार वीडियो कॉन्फ्रेसिंग में दिये निर्देशानुसार के पालन में तैयार कर पत्र के संलग्न अग्रिम कार्यवाही हेतु कृपया सादर प्रस्तुत है।

संलग्नः–
(D.S.R.) की संशोधित प्रतियां
1–मुरम
2–फर्सीपत्थर
3–मिटटी (चिमनीभटटा)
4–केशरगिटटी

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना म0प्र0)

क्रमांक / खनिज / DSR /2022–23 / 953 मुरैना,दिनांक 30.08.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC),
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– जिला सर्वेक्षण रिपोर्ट (D.S.R.) प्रस्तुत करने के संबंध में।

संदर्भः– 1–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 5012 / भौमिकी / न0क0 / 2022 भोपाल, दिनांक 13.04.2022 एवं पत्र क्रमांक 8192 दिनांक 16.06.2022।
2–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क. / 2022 भोपाल, दिनांक 03.03.2022

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उपरोक्त विषयान्तर्गत संदर्भित पत्रों द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माईनिंग 2020 गाइड लाईन के पालन में तहत (रेत खनिज) से भिन्न अन्य गौण खनिज **केशर गिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा)** के लिये पृथक–पृथक कुल 04 प्रारूप जिला सर्वेक्षण रिपोर्ट (D.S.R.) का परीक्षण किया गया एवं अनुमोदित किये जाने हेतु अनुशंसा की गई है।

प्रारूप डी.एस.आर. को नियत समयावधि हेतु दिनांक 02.08.2022 से 23.08.2022 (21 दिवस) हेतु मुरैना जिले के पोर्टल (morena.nic.in) पर तथा हार्डकॉपी खनिज कार्यालय मुरैना में आमजन के दाबा / आपत्ति एवं सुझाव हेतु रखी गयी, जिसमें दाबा / आपत्तियों प्राप्त नहीं हुई है।

संचालक, भौमिकी तथा खनिकर्म, भोपाल के पत्र कमांक / 8192 दिनांक 16.06.2022 द्वारा दिये गये निर्देश अनुसार निर्धारित फार्मेट में अघतन वांछित जानकारी मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (D.S.R.) अग्रिम कार्यवाही हेतु आपकी ओर प्रेषित है।

कलेक्टर
जिला मुरैना (म.प्र.)

संलग्नः–
डी.एस.आर. की प्रतियां
1–केशर गिटटी,
2–फर्सीपत्थर
3–मुरम
4–मिट्टी (चिमनीभट्टा)

पृ0क्रमांक / खनिज / DSR /2022–23 मुरैना,दिनांक

प्रतिलिपिः–

1. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. (SEIAA) की ओर सूचनार्थ प्रेषित ।
2. संचालक, भौमिकी तथा खनिकर्म, 29–ए, अरेरा हिल्स, भोपाल की ओर सूचनार्थ।
3. क्षेत्रीय कार्यालय, संचालनालय भौमिकी तथा खनिकर्म, मोतीमहल ग्वालियर की ओर सूचनार्थ।
4. प्रभारी अधिकारी, एन0आई0सी0, कलेक्ट्रेट, मुरैना (म0प्र0) की ओर सूचनार्थ।
5. जिला खनि अधिकारी, जिला मुरैना की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।

कलेक्टर
जिला मुरैना (म.प्र.)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म.प्र.)

कमांक / खनिज / DSR/2022 मुरैना, दिनांक 01/08/2022

जिला सर्वेक्षण रिपोर्ट (प्रारूप) की अनुशंसा हेतु आयोजित बैठक का कार्यवाही विवरण

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माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021 के अनुसार **सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020** के पालन में संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क्र. / 2022 भोपाल, दिनांक 03.03.2022 तथा कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना का आदेश क्रमांक / खनिज / DSR / 2022 / 852 मुरैना, दिनांक 22.07.2022 के पालन में तैयार की गई जिला सर्वेक्षण रिपोर्ट (District Survey Report)(प्रारूप) की अनुशंसा हेतु आयोजित बैठक दिनांक 01.08.2022 में निम्नानुसार सदस्य उपस्थित हुये :–

1– अनुविभागीय अधिकारी (राजस्व) मुरैना।
2– खनि अधिकारी, जिला मुरैना
3– कार्यपालन यंत्री, जल संसाधन विभाग, मुरैना।
4– राज्य प्रदूषण नियंत्रण मण्डल के नामांकित अधिकारी।
5– उप वनमण्डलाधिकारी, उप वनमण्डल, मुरैना ।

उपरोक्तानुसार आयोजित बैठक में रेत खनिज से भिन्न अन्य गौण खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के लिये पृथक–पृथक तैयार की गई जिला सर्वेक्षण रिपोर्ट (D.S.R.) के संबंध में चर्चा की गई, जो सही पाई गई। उक्त जिला सर्वेक्षण रिपोर्ट (प्रारूप) पर्यावरण, वन और जलवायु परिवर्तन मंत्राल की अधिसूचना दिनांक 25.07.2018 में विहित प्रावधानों के अनुरूप है। उक्त 04–जिला सर्वेक्षण रिपोर्ट (प्रारूप) खनिज केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा) के संबंध में अग्रिम कार्यवाही हेतु सर्वसम्मति से अनुशंसा की जाती है।

संलग्न :– डी.एस.आर.की प्रति सॉफ्ट कॉपी, हार्डकॉपी

अनुविभागीय अधिकारी
(राजस्व)
अनुभाग मुरैना (म.प्र.)

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म.प्र.)

उप वनमण्डलाधिकारी
सामान्य वनमण्डल
जिला मुरैना (म.प्र.)

कार्यपालन यंत्री
जल संसाधन विभाग
जिला मुरैना (म.प्र.)

प्रभारी अधिकारी
राज्य प्रदूषण नियंत्रण मण्डल
ग्वालियर (म.प्र.)

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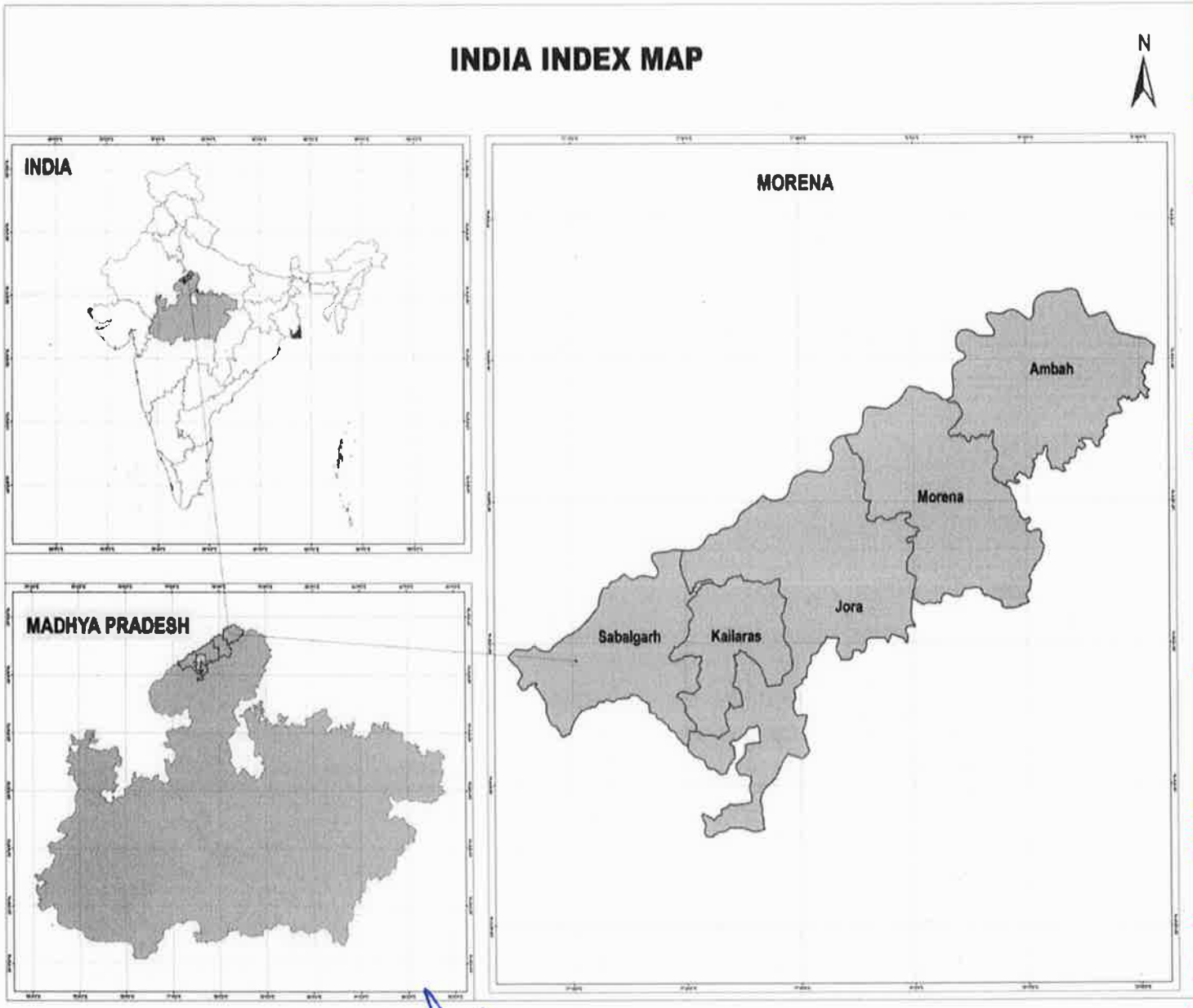
FOR D.S.R. MINOR MINERAL- Soil (Ordinary clay for Bricks)

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना



State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

District Survey Report: Morena

Introduction

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Geographical Information:

Geography & Climate	
Latitude	$76^0$30" से $78^0$33"
Longitude	$25^0$17" से $26^0$52"
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

State Level Environment Impact Assessment Authority, M.P. (EPCO) Parvavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

River/Lake:

The district falls in drainage area of Yamuna system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river: This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river:This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river:The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Boundaries:

The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest

Climate:

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 47.10 celsius. In cold season the district has freezing cold and temperature drops to 3.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north - western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September, June being the rainiest month.

State Level Environment Impact Assessment Authority, M.P. (EPCO)

जिला कार्यालय (खनिज शाखा) मुरैना

Approach Road/Rail:

The district headquarters is located on Agra-Mumbai National Highway No.3 and on Central railway lines. Roads are constructed by P.W.D., Forest Department and Rural Development Department in the district which are inter-connected with Tahsils and community development Blocks headquarters as well as with all village panchayats . On the Central rail line of the district Morena , Sank, Nurabad, Bamor, Sikranada, and Hetampur stations are situated. The Gwalior – Sheopur narrow gauge railway line passes through the district where Bamor, Jaora, Kailaras Ran-Pahadi and Sabalgarh are main stations and on Gwalior to Bhind railway lines there are Shanichara and Rethaura railway stations. The nearest air facility is available at Gwalior.

Physiography:

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state.

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History

As per the local belief, there were sarai(shelter), at place like Morena, Noorabad, Chhoda, Porsa etc. on the highway during the Mughal period. The town was named after the small village of Muraina, located about 8 km. away from the present town. The nearby railway station of Shikarpur and the sarai was also later renamed after the old village. Initially it was called Pench-Morena as it had a number of cotton processing machines.

The district is located on the north-western border of the state in Chambal valley. The present

Morena is combined with the Sikarwari and Tanwargarh districts of 19th century. Due to major settlement of Sikarwar Rajputs in Ambah area, this was known as Sikarwari. Similary due to the settlement of Tanwars(Tomars) in Joura area, the central part of the district was called Tanwargarh. The district Sikarwari, the part of former Gwalior state was later on merged into Tanwarghar in 1904 with headquarters of Joura-Alapur which is presently a tahsil headquaters. As per order No 6/10/1923 the pargana headquarters shifted from Nurabad to Morena and vide order No. 492 dated 6/10/1923 the district headquarters was also changed to Morena. In the year 1948 consequent to the formation of Madhya Bharat the Sheopur district of former Gwalior state was included in Madhya Bharat. Later it became a separate district after the reorganisation of Madhya Pradesh.As per Notification No. 1002/F/20-08-92/Sha. 8 M.P. dated 22nd May 1998, Sheopur, Karahal and Vijaypur tahsils were excluded from Morena district and a new district Sheopur was formed. Morena, Porsa, Ambah, Joura, Kailaras and Sabalgarh tahsil remained in Morena district.

During an excavation in the year 1927-28 in Kutwar village, a huge treasure chest of 18,659 bronze coins was found from which it can be firmly said that during the 3rd and 4th centuries this area was under the rule of Naga Kings. After the Nagas, Guptas, Hoons, Vardhans, Gurjaras, Pratihars, Chandellas and Kachchhapaghatas successfully ruled over this territory. Kirtiraja was the famous king of this dynasty, under whose period the temples of Sihonia were built. After the dynasty of Kachchhapaghatas clans of TomarRajputs etc. ruled over this region till 1526. After the hegemony of Mughals, during the period of the administrative reorganization of the district fell partly within the sarkars of Sheopur and Baroda Mahal, Ajmer suba of Ranthambhor Sarkar, AlapurMahal, Agra Subah of Gwalior Sarkar and Awantgarh and Vijepur Mahal Subah were under the rule of Mandal Sarkar, Remaining areas were included under Gwalior Sarkar.

From the period after invasion of the area by Akbar to last decade of 18th century, this area was part of Mughal. After the eventful battle of Panipat in 1761, Mahadji Sindhia captured Gwalior and by footing into nearby regions and the history of Morena became a part of Gwalior. Due to the services and the policy acceleration by the French commander of the Sindhias army named Jean Baptiste Fillose who trained and administered the army of Sindhia the army power of Mahadji Sindhia became more powerful. After Mahadji Sindhia, Daulat Rao Sindhia established Gwalior as Capital in 1810. In 1853 the Gwalior state was divided into different units under the able guaidance of minister Sir Dinkar Rao during the regime of Jayaji Rao Sindhiya (1843-1886). The state was divided into 3 Prants of Gwalior, Isagarh and Malwa, which were further divided into 19 districts and 62 tahsils. The area of present

Morena was divided into 4 districts viz. Sabalgarh, Sheopur, Sikarwari and Tanwarghar. During the period of the Great Revolt of 1857, Javaji Rao Sindhia decided to remain loyal to British. As and when the Sepoys of Gwalior heard about the fierce fight of the Rani Jhansi they joined the Great Revolt on the night of 14th June 1857. The revolt army reached Kalpi in November 1857 and joined the great revolt under the leadership of Tatya Tope. The situation grew worse in June 1858 when Gwalior was attacked by combined forces of Rani Laxmi Bai of Jhansi, Rao Saheb and Tatya Tope. The Maharaja and his Diwan Dinkar Rao fled to Agra when the leaders of revolt captured Gwalior. On 17th June an appalled battle between Sir Huge Rose and sepoys of the great revolt was fought under the leadership of Rani of Jhansi with combined forces of Naresh (King) of Banda. The nawab of Banda lost one of his arm and in the battle the Rani of Jhansi attained martyrdom. Sir Huge Rose offered his condolence with statement that "Rani of Jhansi was a brave and great general". With achievement of independence of India on 15th August 1947, Gwalior state was included in Union of India and on 28th May 1948 reorganization of states it was included in an unified state of Madhya Bharat. Morena became separate district, as a result of the reorganization of states of the formation of new Madhya Pradesh on 1st Nov. 1956.

Chambal Sanctuary Notifications

Administrative approval of the Government of India for the establishment of the National Chambal Sanctuary was conveyed in Order No. 17-74/77-FRY (WL) dated 30 September 1978. The Sanctuary has sanctuary status declared under Section 18(1) of the Wildlife Protection Act of 1972. Since such a declaration is carried out by individual states for territory falling within their jurisdiction, there are three separate notifications covering the National Chambal Sanctuary - the Madhya Pradesh portion was gazetted in the Government of Madhya Pradesh Notice No. F.15/5/77-10(2) dated 20 December 1978, the Uttar Pradesh portion was gazetted in the Government of Uttar Pradesh Notice No. 7835/XIV-3-103-78 dated 29 January 1979 and the Rajasthan portion was gazetted in the Government of Rajasthan Notice No.F.11(12)Rev.8/78 dated 7 December 1979.[5]

The sanctuary is protected under India's Wildlife Protection Act of 1972. The sanctuary is administered by the Department of Forest under the Project Officer with headquarters at Morena, Madhya Pradesh

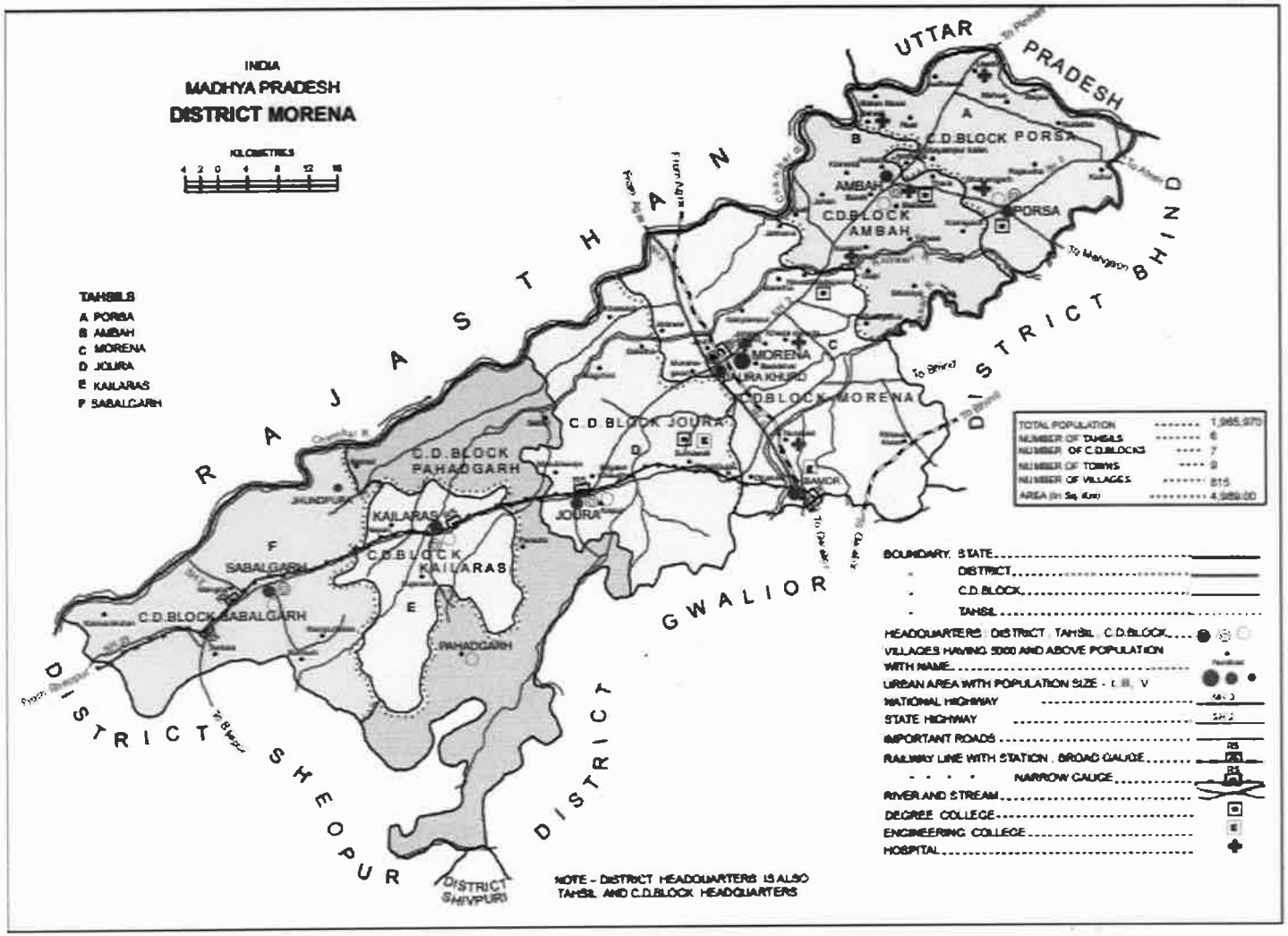
General Features

Administrative Setup of the District

DISTRICT	Tehsil Places
MORENA	AMBAH
	PORSA
	MORENA
	BANMOR
	JOURA
	KAILRAS
	SABALGRAH

जिला कार्यालय (खनिज शाखा) मुरैना

Location Map of the District



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List of the Letter of the Intent Holder and Details of the existing Lease in the District

Chimnibhatta (Ordinary clay for Bricks) Mines

S. N.	Name Of Mineral	Name Of Lessee, Address and Contact No.	Mining Lease Grant Order No. & Date	Village	Survey No./ Area Of Mining Lease Hact.	Period of Mining Lease (Initial)		Period of Mining Lease (1/2 .. renewal)		Date of Commencement of Mining Operation	Status (Working /Non-Working for dispatch etc.)	Captive/ Non captive	Obtained Environmental Clearance (Yes/No) If Yes latter No. with date of Grant of EC	Location of Mining lease (latitude & Longitude)	Method of Mining Open Cast/ Under ground	Number of tree plantation set up at the mine
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	मिटटी (चिमनी भटटा)	श्री जगदीश प्रसाद शर्मा पुत्र स्वं0 श्री जगन्नाथ प्रसाद शर्मा नि0 ग्राम मुडियाखेडा जिला मुरैना 9827375173	QL/22/2012-18/03/2015	मुडिया खेडा	888 1.000 हे0	15.12.15 से 14.12.25		15.12.15 से 14.12.25		15.12.15	Working	Non captive	YES 3307/SEIAA/15-29/01/2015	26°30'40.8"N 78°01'46.2"E	Open Cast	22
2	मिटटी (चिमनी भटटा)	श्री सभाराम गुर्जर पुत्र श्री माधौसिंह गुर्जर नि0 ग्राम गिरगौनी तह/ जिला मुरैना म0प्र0 7477251050	51/2011-28/09/2012	गिरगौनी	590 0.266 हे0	04.10.12 से 03.10.22		04.10.12 से 03.10.22		04.10.12	Non-Working	Non captive	NO	26°27'15.4"N 78°06'05.8"E	Open Cast	11
3	मिटटी (चिमनी भटटा)	श्री शिव सिंह उर्फ लटूरी सिंह पुत्र श्री पन्नालाल किरार (यादव) नि0 ग्राम किशनपुर तहसील व जिला मुरैना 8827888103	QL/16/2014-04/06/2020	किशनपुर	740 मिन–1, 740 मिन–2, 738 1.000 हे0	21.08.2020 से 20.08.2030		21.08.2020 से 20.08.2030		21.08.20	Non-Working	Non captive	YES 3444/SEIAA/20-22/10/2020	26°29'28.9"N 78°04'00.2"E	Open Cast	22
4	मिटटी (चिमनी भटटा)	श्री गिर्राज राजौरिया पुत्र श्री लक्ष्मीनारायण राजौरिया नि0 ग्राम मुडियाखेडा तह0 व जिला मुरैना 9300650781	QL/18/2013-18/08/2020	देवरी	2206 मिन–2/1 1.338 हे0	23.11.20 से 22.11.30		23.11.20 से 22.11.30		23.11.20	Non-Working	Non captive	YES SIA/MP/MIN/245907/2021 EC22B001MP193503 9018/2022 09/04/2022	26°32'14.0"N 77°57'30.6"E	Open Cast	29

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5	मिटटी (चिमनी भटटा)	सुधर सिंह यादव पुत्र श्री दर्शन यादव नि0 ग्राम किशनपुर तहसील जौरा जिला मुरैना 7869379345 9893434238	QL/68/2017-07/01/2021	किशनपुर	313/1, 313/2 1.014 हे0	01.02.21 से 31.01.31	01.02.21 से 31.01.31	01.02.21	Non-Working	Non captive	YES 210/SEIAA/21-05/04/2021	26°29'42.5"N 78°03'56.2"E	Open Cast	23
6	मिटटी (चिमनी भटटा)	लक्ष्मीनारायण यादव पुत्र श्री हीरालाल यादव निवासी ग्राम कीरखपुर तहसील व जिला मुरैना	QL/21/2013-26/04/2017	किशनपुर	259, 253 1.000 हे0	12.11.20 से 11.11.30	12.11.20 से 11.11.30	12.11.20	Non-Working	Non captive	YES DEIAA/05/2017-18-16/06/2017	26°30'03.4"N 78°03'30.1"E	Open Cast	23
7	मिटटी (चिमनी भटटा)	अशोक सिंह पुत्र श्री रामसिह किरार नि0 ग्राम जौराखुर्द तहसील व जिला मुरैना 9827782936	QL/98/2016-26/06/2020	जौराखुर्द	1889 min2 1897 min 2 1890 1.474 हे0	27.08.20 से 26.08.30	27.08.20 से 26.08.30	27.08.20	Non-Working	Non captive	YES 700/SEIAA/21-18/05/2021	26°28'27.4"N 77°57'49.8"E	Open Cast	33
8	मिटटी (चिमनी भटटा)	रामदुलारी पत्नी श्री हेमंत कुमार त्यागी नि0 चचिहा तह. जौरा, मुरैना 9617128440	QL/44/2011-23/01/2012	चचिहा	1363 0.700 हे0	30.01.12 से 29.01.2022	30.01.12 से 29.01.2022	30.01.12	Non-Working	Non captive	YES DEIAA/29/2016-30/05/2016	26°23'54.0"N 77°49'45.0"E	Open Cast	16
9	मिटटी (चिमनी भटटा)	रामनिवास त्यागी पुत्र श्री हुकुमसिंह त्यागी निवासी रूनीपुर तहसील जौरा जिला मुरैना 8120803697	QL/71/2017-07/02/2020	रूनीपुर	481, 482, 483 एवं 484 1.000 हे0	20.05.20 से 19.05.25	20.05.20 से 19.05.25	20.05.20	Working	Non captive	YES 3726/SEIAA/20-06/01/2020	26°22'49.2"N 77°46'14.6"E	Open Cast	22
10	मिटटी (चिमनी भटटा)	श्री रामवीर शर्मा पुत्र श्री लाखन सिंह शर्मा नि0 ग्राम चचिहा तह0 जौरा जिला मुरैना– 9098833358	QL/72/2017/486-28/07/2020	चचिहा	49, 50 1.000 हे0	04.08.2020 से 03.08.2025	04.08.2020 से 03.08.2025	04.08.20	Working	Non captive	YES 627/SEIAA/20-06/06/2020	26°24'42.7"N 77°48'59.4"E	Open Cast	22
11	मिटटी (चिमनी भटटा)	श्री धर्मेन्द्र कुमार यादव पुत्र श्री नृपाल यादव निवासी ग्राम सहराना,. जौरा 7987186818	QL/22/2014-04/04/2017	सहराना	959 1.000 हे0	23.06.17 से 22.06.22	23.06.17 से 22.06.22	23.06.17	Non-Working	Non captive	YES DEIAA/80/2016-24/03/2017	26°27'12.0"N 77°57'18.2"E	Open Cast	22
12	मिटटी (चिमनी भटटा)	वीरेन्द्र कुमार राजौरिया पुत्र श्री रामगोविंद राजौरिया निवासी ग्राम रेमजा का पुरा, जौरा, मुरैना 9926862850	QL/08/2013-30/01/2017	धमकन	987, 988 1.000 हे0	22.02.17 से 21.02.27	22.02.17 से 21.02.27	22.02.17	Working	Non captive	YES DEIAA/66/2016-17/10/2016	26°20'13.7"N 77°51'54.1"E	Open Cast	23
13	मिटटी (चिमनी भटटा)	श्री महेश यादव पुत्र श्री दर्शनलाल यादव नि0 डोंगरपुर तह0 जौरा, मुरैना 9907374919	QL/17/2014-22/02/2018	डोंगरपुर	319,320,321 1.130 हे0	28.04.18 से 27.04.23	28.04.18 से 27.04.23	28.04.18	Non-Working	Non captive	YES DEIAA/22/2017-18-02/02/2018	26°22'37.63"N 7°51'32.50"E	Open Cast	22

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14	मिटटी (चिमनी भटटा)	श्री अतुल वर्मा पुत्र श्री पुरूषोत्तम वर्मा निवासी पहाडगढ रोड, कैलारस 9303882112	QL/23/2015-10/08/2016	किरायच	174/2, 174/3 1.760 हे0	23.09.16 से 22.09.26	23.09.16 से 22.09.26	23.09.16	Working	Non captive	YES 62/2016-01/08/2016	26°16'48.4"N 77°34'50.6"E	Open Cast	39
15	मिटटी (चिमनी भटटा)	सपना वर्मा पुत्री श्री पुरूषोत्तम निवासी पहाडगढ रोड कैलारस, जिला मुरैना 9303882112	QL/88/2016-04/04/2017	कैलारस	1419, 1424 1.170 हे0	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES 79/2016-24/03/2017	26°17'02.4"N 77°38'06.1"E	Open Cast	27
16	मिटटी (चिमनी भटटा)	श्रीमती संगीता जादौन पत्नी श्री हरेन्द्र सिंह जादौन नि0 ग्राम गस्तौली तह0 कैलारस, मुरैना 9754313199	QL/62/16-14/09/2018	गस्तौली	463,464, 467,476, 470,477 1.740 हे0	05.01.19 से 04.01.29	05.01.19 से 04.01.29	05.01.19	Working	Non captive	YES 06/2018-19-24/03/2017	26°16'34.3"N 77°39'49.7"E	Open Cast	39
17	मिटटी (चिमनी भटटा)	श्री दामोदर प्रसाद राजौरिया पुत्र श्री द्वारिका प्रसाद राजौरिया, निवासी अम्बाह रोड, ग्राम मुडियाखेडा तहसील व जिला मुरैना 966911115	QL/55/2018-28/09/2020	नैपरी	1168, 1152 1.000 हे0	23.11.2020 से 22.11.2030	23.11.2020 से 22.11.2030	23.11.20	Non-Working	Non captive	YES 4485/SEIAA/26-27/10/2020	26°18'01.8"N 77°35'39.1"E	Open Cast	22
18	मिटटी (चिमनी भटटा)	श्री अंकित शर्मा पुत्र श्री अशोक कुमार शर्मा नि0 पुरानी हाउसिंग बोर्ड कॉलोनी, तह0 व जिला मुरैना 9669111115	QL/19/2013-18/08/2020	रजपुरा जांगीर	268, 269, 270, 271 2.000 हे0	23.11.20 से 22.11.30	23.11.20 से 22.11.30	23.11.20	Non-Working	Non captive	YES SIA/MP/MIN/245875/2021 EC22B001MP189390 8986/2022 24/03/2022	26°18'25.6"N 77°36'01.3"E	Open Cast	44
19	मिटटी (चिमनी भटटा)	श्री राजेन्द्र सिंह यादव पुत्र श्री सोवरन सिंह यादव निवासी ग्राम हरलाल का पुरा कैलारस, मुरैना 9630112543	QL/25/2019/575-14/01/2020	सुहास	953, 951/1 1.160 हे0	25.01.2020 से 24.01.2030	25.01.2020 से 24.01.2030	25.01.20	Non-Working	Non captive	YES 394/SEIAA/20-30/05/2020	26°17'18.5"N 77°35'26.9"E	Open Cast	25
20	मिटटी (चिमनी भटटा)	जगदीश बंसल पुत्र श्री केदार नाथ बंसल नि0 सबलगढ जिला मुरैना 9630358722 9425457224	QL/30/13-14/09/2018	काजौना	140, 141 1.000 हे0	31.05.19 से 30.05.24	31.05.19 से 30.05.24	31.05.19	Non-Working	Non captive	YES DEIAA/08/2018-19 05/10/2018	26°14'28.4"N 77°22'23.3"E	Open Cast	22
21	मिटटी (चिमनी भटटा)	श्री राजीव कुमार गुप्ता पुत्र श्री गोपाल गुप्ता नि0 ग्राम सबलगढ तह0 सबलगढ जिला मुरैना	QL/97/2016-17/07/2020	तिन्दौली	610, 611 1.000 हे0	14.08.20 से 13.08.30	14.08.20 से 13.08.30	14.08.20	Non-Working	Non captive	YES 778/SEIAA/4-19/05/2021	26°14'18.3"N 77°22'58.7"E	Open Cast	23

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22	मिटटी (चिमनी भटटा)	श्रीमती पुनीता जादौन पत्नी श्री जयकुमार सिंह जादौन निवासी ग्राम व पोस्ट बामसोली तह0 सबलगढ जिला मुरैना 9993610808	QL/01/2015-16/08/2016	बामसौली	2847/2, 2846/2 मिन–1, 2857 मिन–1 1.031 हे0	23.09.16 से 22.09.26	23.09.16 से 22.09.26	23.09.16	Working	Non captive	YES DEIAA52/2016-01/08/2016	26°09'25.2"N 77°26'29.6"E	Open Cast	23
23	मिटटी (चिमनी भटटा)	महेश कुमार त्यागी पुत्र श्री भोगीराम त्यागी निवासी ग्राम डोंगरपुर मानगढ, तहसील कैलारस, मुरैना 9179677096 8770537498	QL/18/2012/1386-11/11/2021	चमरगवां (माली वाजना)	848 1.500 हे0	16.11.21 से 15.11.31	16.11.21 से 15.11.31	16.11.21	Working	Non captive	YES DEIAA/76/2016-24/03/2017	26°18'18.4"N 77°41'23.7"E	Open Cast	33
24	मिटटी (चिमनी भटटा)	श्रीमती सुमन देवी पत्नी श्री गिर्राज प्रसाद नि0 ग्राम मुडियाखेडा तह0 व जिला मुरैना 9669111115	QL/52/2018/1049-24/08/2021	नैपरी	435/1, 436, 438, 441 2.000 हे0	24.09.21 से 23.09.31	24.09.21 से 23.09.31	24.09.21	Non-Working	Non captive	YES SIA/MP/MIN/258204/2022 EC22B001MP110407 9057/2022 09/04/2022	26°18'34.5"N 77°35'56.6"E	Open Cast	44
25	मिटटी (चिमनी भटटा)	मै0 कैलादेवी ईट उघोग प्रो0 श्रीनिवास पुत्र श्री भीखाराम नि0 ग्राम हांसई मेवदा, तहसील व जिला मुरैना (म0प्र0) 9479982972	QL/12/2017/471-22/07/2020	हांसई मेवदा	846, 847, 849 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	YES 4267/SEIAA/20-27/10/2020	26°30'28.0"N 77°56'25.9"E	Open Cast	22
26	मिटटी (चिमनी भटटा)	श्री रामवरन सिंह पुत्र स्वं0 श्री बरफी सिंह निवासी ग्राम डोंगरपुर, तह. व जिला मुरैना 9744541056	QL/55/2020/1142-14/09/2021	जौगनी	3371, 3375, 3382 1.00 हे0	–	–	–	Non-Working	Non captive	YES SIA/MP/MIN/258245/2022 EC22B001MP135121 9056/2022 09/04/2022	26°31'04.9"N 78°04'29.0"E	Open Cast	21
27	मिटटी (चिमनी भटटा)	श्री मुनेश कुमार शर्मा पुत्र श्री लक्ष्मीनारायण शर्मा निवासी ग्राम मुडियाखेडा, तहसील व जिला मुरैना (म0प्र0) 966911115	QL/68/2021/1392-11/11/2021	मुरैनागांव	2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119 2.000 हे0	–	–	–	Non-Working	Non captive	YES SIA/MP/MIN/245943/2021 EC22B001MP196909 9015/2022 09/04/2022	26°28'22.7"N 77°56'14.4"E	Open Cast	44

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28	मिटटी (चिमनी भटटा)	श्री नबाब सिंह यादव पुत्र श्री परमानंद यादव निवासी ग्राम जोंसिल पोस्ट काठौन तहसील सबलगढ, मुरैना 9977150678 6260430788	QL/52/2021/ 1084- 01/09/2021	जोंसिल	257, 258, 262 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	YES SIA/MP/MIN/249556/2022 EC22B001MP152519 8935/2022 07/03/2022	26°10'59.7"N 77°33'23.4"E	Open Cast	23
29	मिटटी (चिमनी भटटा)	अंजू शर्मा पत्नी श्री बालकृष्ण शर्मा नि0 चौघरी वेयर हाउस ग्राम बडफरा तहसील अम्बाह जिला मुरैना 982662814	QL/93/2021/ 473- 28/04/2022	पुरावस खुर्द	92, 94, 103, 105 1.000 हे0	22.07.2022 से 21.07.2032	22.07.2022 से 21.07.2032	22.07.22	Non-Working	Non captive	YES SIA/MP/MIN/249378/2021 EC22B001MP191923 8987/2022 20/03/2022	26°37'27.8"N 78°16'40.6"E	Open Cast	22
30	मिटटी (चिमनी भटटा)	अंजू शर्मा पत्नी श्री बालकृष्ण शर्मा नि0 चौघरी वेयर हाउस ग्राम बडफरा तहसील अम्बाह जिला मुरैना 982662814	QL/137/2021 /474- 28/04/2022	बडफरा	693 / 1,640, 641 1.000 हे0	22.07.2022 से 21.07.2032	22.07.2022 से 21.07.2032	22.07.22	Non-Working	Non captive	YES SIA/MP/MIN/249371/2021 EC22B001MP189374 9014/2022 09/04/2022	26°41'21.8"N 78°12'36.6"E	Open Cast	.23
31	मिटटी (चिमनी भटटा)	श्री कमल किशोर तिवारी पुत्र श्री रामनिवास तिवारी नि0 ग्राम निटहरा, तहसील जौरा जिला मुरैना 9756602338	QL/23/18/37 26- 19/03/2020	निटहरा	1077, 1079, 1081 1.000 हे0	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	25
32	मिटटी (चिमनी भटटा)	संजय त्यागी पुत्र श्री सुरेश निवासी 107, राजइन्क्लेव, आदित्यपुरम तह. गिर्द जिला ग्वालियर 7828345167	QL/11/2020/ 819- 29/06/2021	बिलगांव चौघरी	284,285, 293,294 1.000 हे0	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22
33	मिटटी (चिमनी भटटा)	श्री पप्पन यादव पुत्र श्री पंक्षी यादव नि0 ग्राम व पोस्ट जोंसिल तहसील सबलगढ जिला मुरैना 8458979386	QL/47/2018/ 2923- 02/03/2020	जोंसिल	36 मिन–1 1.000 हे0	–	–	–	Non-Working	Non captive	NO	26°07'23.6"N 77°27'16.2"E	Open Cast	23

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34	मिटटी (चिमनी भटटा)	श्री योगेश सिंह तोमर पुत्र श्री राजकुमार सिंह तोमर, नि0 डी.ए. क्वी. कॉलोनी, पोरसा रोड, अम्बाह तहसील व जिला मुरैना 9981333143	QL/35/2020-25/09/2020	थरा	3630, 3633, 3632 1.000 हे0	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22
35	मिटटी (चिमनी भटटा)	पवन कुमार पुत्र श्री अमृतलाल यादव नि0 ग्राम जींगनी तहसील व जिला मुरैना 8085040722	QL/72/2020/914-26/07/2021 (सैद्धांतिक सहमति)	जींगनी	2377, 2388 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23
36	मिटटी (चिमनी भटटा)	महावीर सिंह पुत्र श्री लक्ष्मण सिंह गुर्जर नि0 ग्राम गिरगौनी तहसील बामोर,मुरैना 9759372012	QL/120/2021/1443-25/11/2021 (सैद्धांतिक सहमति)	गिरगौनी	365, 574 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23
37	मिटटी (चिमनी भटटा)	श्री औतार सिंह पुत्र श्री सेावरन सिंह नि0 ग्राम गिरगौनी पोस्ट नूराबाद तहसील मुरैना हाल तहसील बामोर जिला मुरैना 9826412635		गिरगौनी	602, 604/2, 604/3, 605, 607 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22
38	मिटटी (चिमनी भटटा)	श्री राजेश शर्मा पुत्र श्री रतनलाल शर्मा नि0 ग्राम उम्मेदगढवांसी तह0 जौरा जिला मुरैना	सैद्धांतिक सहमति जारी	उम्मेदगढ वांसी	559, 560, 561, 562 1.600 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	35
39	मिटटी (चिमनी भटटा)	श्री मधुसूदन शर्मा पुत्र श्री इन्द्रलाल शर्मानि0 ग्राम चचिहा पो0 मुंद्रावजा, तहसील जौरा जिला मुरैना 8827537941	QL/10/2020-04/10/2021	चचिहा	48, 68/1 1.000 हे0	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	21
40	मिटटी (चिमनी भटटा)	श्री सामंत सिकरवार पुत्र श्री शिव सिंह सिकरवार निवासी ग्राम व पोस्ट अरहेला तह0 जौरा जिला मुरैना 9981930950	QL/16/2018-18/10/2019 (सैद्धांतिक सहमति)	अरहेला	1320 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22
41	मिटटी (चिमनी भटटा)	भरत लाल त्यागी पुत्र श्री रामजीलाल त्यागी निवासी ग्राम जैतपुर बघेल तहसील जौरा जिला मुरैना 9131823460	QL/117/2021-16/11/2021 (सैद्धांतिक सहमति)	जैतपुर	388, 430, 434, 435 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23

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42	मिटटी (चिमनी भटटा)	श्री रामनिवास पुत्र श्री बुद्धी निवासी ग्राम बघेल तहसील जौरा,मुरैना 8016426704	QL/98/2021-21/03/2022 (सैद्धांतिक सहमति)	बघेल	74, 75 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23
43	मिटटी (चिमनी भटटा)	श्री बालाजी ईट उघोग प्रो. श्रीमती ललितेश धाकड पत्नी श्री सरदार सिंह धाकड निवासी ग्राम लुधाया पोस्ट नैपरी, तह.कैलारस जिला मुरैना 8839778118	QL/18/2020/792-04/12/2020 सैद्धांतिक सहमति	लुधाया	181, 182, 183 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23
44	मिटटी (चिमनी भटटा)	उग्रसेन जाटव पुत्र श्री विजय सिंह निवासी ग्राम आंतरी, तह कैलारस जिला मुरैना 7898849989	सैद्धांतिक सहमति	आंतरी	14/5, 14/10 1.463 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	33
45	मिटटी (चिमनी भटटा)	गजराज सिंह धाकड पुत्र श्री सोहन लाल धाकड नि0 26, ग्रम सगौरिया तहसील कैलारस जिला मुरैना 9755908748	सैद्धांतिक सहमति	बहरारा	780/3/क, 780/3/क/2 1.254 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	29
46	मिटटी (चिमनी भटटा)	कुम्हेर सिंह तोमर पुत्र श्री राजवीर सिंह नि0 किला रोड वार्ड नं0 16, अम्बाह, तहसील अम्बाह जिला मुरैना 7999814922	QL/68/2021/1404-12/11/2021	भाडोली	186, 187, 188, 189 1.000 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22
47	मिटटी (चिमनी भटटा)	गीता शर्मा पत्नी श्री गिर्राज कुमार शर्मा निवासी मुरैनारोड, बरेह, तहसील अम्बाह, जिला मुरैना (म0प्र0) 8770194155	सैद्धांतिक सहमति जारी	बरेह	2202, 2201/1 1.330 हे0	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	29

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

State Level Environment Impact
Assessment Authority, M.P.
(EFCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

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Details of Royalty and Revenue received and Mineral Production in last three years for Minor Mineral Mine lease (2018-19, 2019-2020 and 2020-2021)

Revenue received in last three years Mine lease

सं.क्र.	वर्ष	निर्धारित लक्ष्य	लक्ष्य के विरूद्ध प्राप्त राजस्व	प्रतिशत
1	2018-2019	800.00 Lakh	6,75,38,910/-	84.4
2	2019-2020	900.01 Lakh	9,42,20,393/-	104.5
3	2020-2021	1200.00 Lakh	16,63,59,383/-	138.63

Revenue received in last three years for Soil (Ordinary clay for Bricks)Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Revenue (In Rs.)
1	Soil (Ordinary clay for Bricks)	2018-19	4,52,857/-
		2019-20	84,23,867/-
		2020-21	1,12,81,680/-

Mineral Production in last three years for Soil (Ordinary clay for Bricks)Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Production in Cubic Meter
1	Soil (Ordinary clay for Bricks)	2018-19	9057.14
		2019-20	168477.34
		2020-21	225633.60

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Uses of Minerals

Minor Minerals are mainly use for construction purpose. Minor Minerals' comprise of gravel, building stones, soil, ordinary clay, ordinary sand, and murrum. Other sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.

Crushed stone (Gitti): Angular crushed stone is the key material for macadam road construction, which depends on the interlocking of the individual stones' angular faces for its strength. Also use as rip rap, as railroad track ballast, as composite material (with a binder) in concrete, tarmac, and asphalt concrete.

Sand: Sand is used to give strength, bulk and other properties to construction materials like asphalt and concrete. In landscaping, it is used as a decorative material. A particular type of sand is used for glass manufacturing. Likewise, it is used for metal casting as a moulding material.

Murrum: It is a mixture of minerals, organic matters, gravels, rock particles etc. Murum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.

Soil: Ordinary earth soil used for filling the embankment, roads, railways and building. Soil which is excavated from mine is also used for different purpose of construction.

Brick Clay/Soil: Brick clay/Soil is rich in alumina, silica, calcium, oxides of iron, magnesium and organic matter. These are low grade clays used most for the manufacturing of building bricks and similar clay products.

Formation of sand

Majority of rivers originate from mountains and as they continue their journey with force, through these mountains, the bigger rocks and boulders disintegrate slowly, and over a period of time, starts rolling down as fragments. These fragments become smaller and smaller due to Weathering process by water, wind and other rocks. Thus, developed sand particles are transported, washed and stored and again transported during floods and deposited at river beds and largely on river shores.In case the sand deposits are mined / removed, cavities are formed in their place and again filled during next cycle(s) of deposition.

River sand is preferred as a source of sand because of the following factors:

- Cities tend to be located near rivers so transport costs are low, the energy in a river grinds rocks into gravels and sands
- Eliminating the costly step of mining, grinding, and sorting of rocks
- The material produced by rivers tends to consist of resilient minerals of angular shape that are preferred for construction.
- Also, offer the advantages of being naturally sorted by grain-size, easily accessible, and able to be transported inexpensively using barges. Despite plentiful supplies of desert sand (Aeolian), which produce materials unsuitable for making concrete.

A meandering stream has a single channel that wind snakelike through its valley. As water flows around these curves, the outer edge of water is moving faster than the inner edge. This creates an erosionsurface on the outer edge (a cut bank) and a depositional surface on the inner edge (a point bar). Where the bends of two meanders meet, they bypass the curve of river, creating an oxbow lake which may then be in-filled with over wash sediment.

Meanders change position by eroding sideways and slightly downstream. The sideways movement occurs because the maximum velocity of the stream shifts toward the outside of the bend, causing erosion of the outer bank. At the same time the reduced current at the inside of the meander results in the deposition of coarse sediment, especially sand. Thus by eroding its outer bank and depositing material along its inner bank, a stream moves sideways without changing its channel size. Due to the slope of the channel, erosion is more effective on the downstream side of a meander.

The specific gravity of an aggregate is considered as the measure of strength or quality of the material. Specific gravity is defined as the ratio of weight of a given volume of aggregate to the weight of equal volume of water. Aggregates having low specific gravity are generally weaker than those with aggregates having high specific gravity. This property helps in a general identification of aggregates. The specific gravity of (sand) is considered to be around 2.65 to 2.67.Sand particles composed of quartz have a specific gravity between 2.65 to 2.67. While inorganic clays generally range from 2.70 to 2.80. Soils with large amounts of organic matter or porous particles have specific gravity below 2.60 (Some range as low as 2.00).

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Sources of sand

Sand is world's second most consumed natural resource after water. Rapid urbanization and global population growth have created unbound demand for this limited natural resource. With urbanization as key driving factor, construction industry has expanded considerably over the last few decades leading to overuse of river sand for construction purposes. This increasing discrepancy between the need for aggregates in the society and scarcity of natural sand due to exhaustion of resources and environmental considerations, has urged concrete manufacturers to look for a suitable and sustainable alternative fine aggregate. The economical and ecological alternative is manufactured sand.

Natural Sources

Natural sand is produced by natural forces, such as river sand and sea sand. Generally, sand found at foot of mountains is more weathered, containing more mud, organic impurities and light substances. Sea sand often contains shells and other impurities, and its components such as the chlorine, sulfate and magnesium salts may cause corrosion of steel bars. All the components will affect the performance of concrete. Sources of sand can be river bed material, de-siltation pits in reservoirs/dams, agricultural land etc. these can be broadly classifies as:

Following are the natural types of the sand:

- **Pit Sand**

This sand is found as deposits in soil and it is obtained by forming pits into soils. It is excavated from a depth of about 1 m to 2 m from ground level. The pit sand consists of sharp angular grains which are free from salts and it proves to be excellent material for mortar or concrete work. For making mortar, the clean pit sand free from organic matter and clay should only be used.

- **River Sand**

This sand is obtained from banks or beds of rivers. The river sand consists of fine rounded grains probably due to mutual attrition under the action of water current. The colour of river sand is almost white. As river sand is usually available in clean condition, it is widely used for all purposes.

- **Sea Sand**

This sand is obtained from sea shores. The sea sand, like river sand, consists of fine rounded grains. The colour of sea sand is light brown. The sea sand contains salts. These salts attract moisture from the atmosphere. Such absorption causes dampness, efflorescence and disintegration of work. The sea sand also retards the setting action of cement. Due to all such reasons, it is the general rule to avoid the use of sea sand for engineering purposes except for filling of basement, etc. It can however be used as a local material after being thoroughly washed to remove the salt.

Manufactured Sand

Manufactured sand (M-Sand) is artificial sand produced from crushing hard stones into small sand sized angular shaped particles (rock particles with a particle size of less than 4.75 mm and is made by artificial crushing and sieving after soil removal treatment), washed and finely graded to be used as construction aggregate. It is a superior alternative to River Sand for construction purpose. The main technical indicators of artificial sand are particle gradation, fineness modulus, stone powder content, void ratio, apparent density, bulk density, methylene blue value (MB), crushing value index, mica content, light-matter content, etc.

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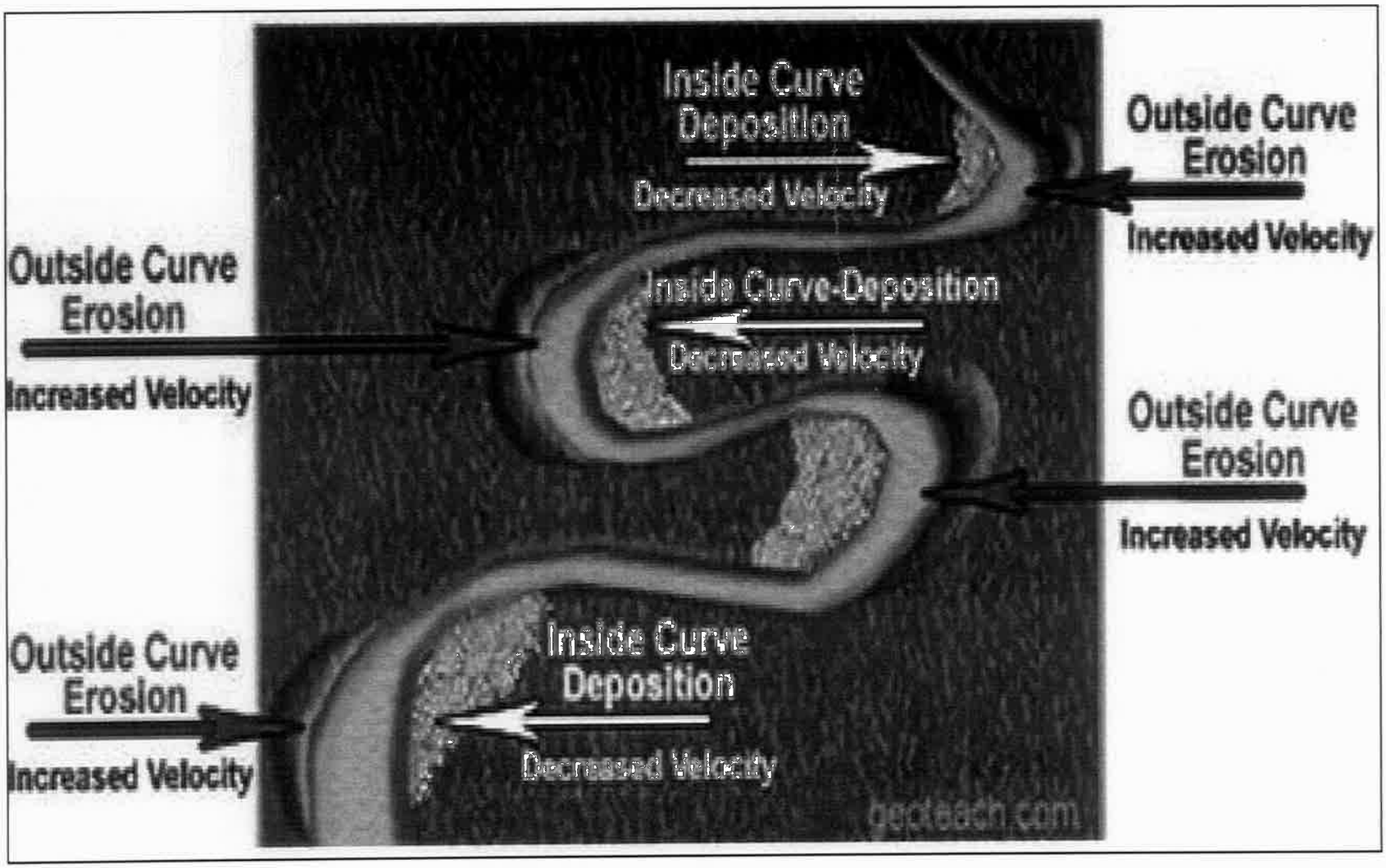

Conducive Areas for sand deposition

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Sand Mining

Sand Mining is an activity referring to the process of the removal of sand from rivers, streams and lakes.

- Sand is mined from beaches and dredged from river beds.
- There are no official figures for the amount of sand mined illegally, but in 2015-16, there were over 19,000 cases of illegal mining of minor minerals, which include sand, in the country.
- To stop illegal mining, the Ministry of Environment, Forest and Climate Change (MoEF) issued Enforcement and Monitoring Guidelines for Sand mining.
- These guidelines focus on the effective monitoring of the sand mining.

Following considerations shall be kept in mind for sand mining:

- Parts of the river reach that experience deposition or aggradations shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations problem.
- Sand and gravel may be extracted across the entire active channel during the dry season.
- Abandoned stream channels on the terrace and inactive floodplains are to be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- Layers of sand which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- Sand shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- Sand and gravel shall not be extracted up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a

minimum of 250 meters on the upstream side and 500 meters on the downstream side.

- Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
- The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, and this sandy-gravelly track constitute excellent conduits and hold the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
- Mining depth should be restricted to 3 meters and distance from the bank should be ¼thor river width and should not be less than 7.5 meters.
- Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
- A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
- River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

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- The mining from the area outside river bed shall be permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed Three-meter (3 m) at any point in time.
- The permanent boundary pillars need to be erected after identification of an area of aggradations and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.

General Profile of the District

Geographical Information:

Geography & Climate	
Latitude	$76^0 30''$ से $78^0 33''$
Longitude	$25^0 17''$ से $26^0 52''$
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

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जिला कार्यालय (खनिज शाखा) मुरैना

Land utilization Pattern in the District: Forest, Agricultural, Mining, etc.,

FOREST:

The forest are mostly tropical dry deciduous type Kardhai (Anogeissus pendula) is most important species. The quality of Kardhai depends on the depth, drainage, rainfall, etc. But most important factors is altitude and moisture contents of the soil. Kardhai occurs almost pure on the flat areas, on the higher altitude Kardhai is noticed on slopes having cooler aspect. Other common tree species noticed are salai (Boswellia serrata) dhooda, khair (Alacia Catechu), tendu, krir dhudhi, medha-singh (Dolichandron faleata), arjun, kulhu (stereulia urens), kusum, kasai, kari (miliusa tomentosa) semal (salmalia mala-barica) aonla, kala siris (Albizzia lebbek), safed siris (Albizzia Procers), palas (Butea monosperma), haldu, spisham (Dalbergio latifelia), padar, raj etc. The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor. The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jorra CD blocks. The forests are dry and autumnal. Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) 564, wild boar 112, jackal 1072, hyenas 74, peacocks 72,152, rabbits 107, foxes 171, syah 61, wolves 35, spotted deer's 12, deer's 471 and bears 27 are the wild life found. The district has black buck, cheetal, nilgai, sambhar, etc in the forest. The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The other common dear species is barking deer (mantiaeus muntejak). They are found in thick forest and come out to graze in open areas, Chinkara and black buck are ANALYTICAL NOTE DISTRICT CENSUS HANDBOOK : MORENA 5 very active animals. The black faced monkey (presliytic entallus) is seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). Grey jungle and jungle fowls are also be seen. The common snakes in the district are cobra, craite, python etc.

2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। ***संलग्न :–*** *राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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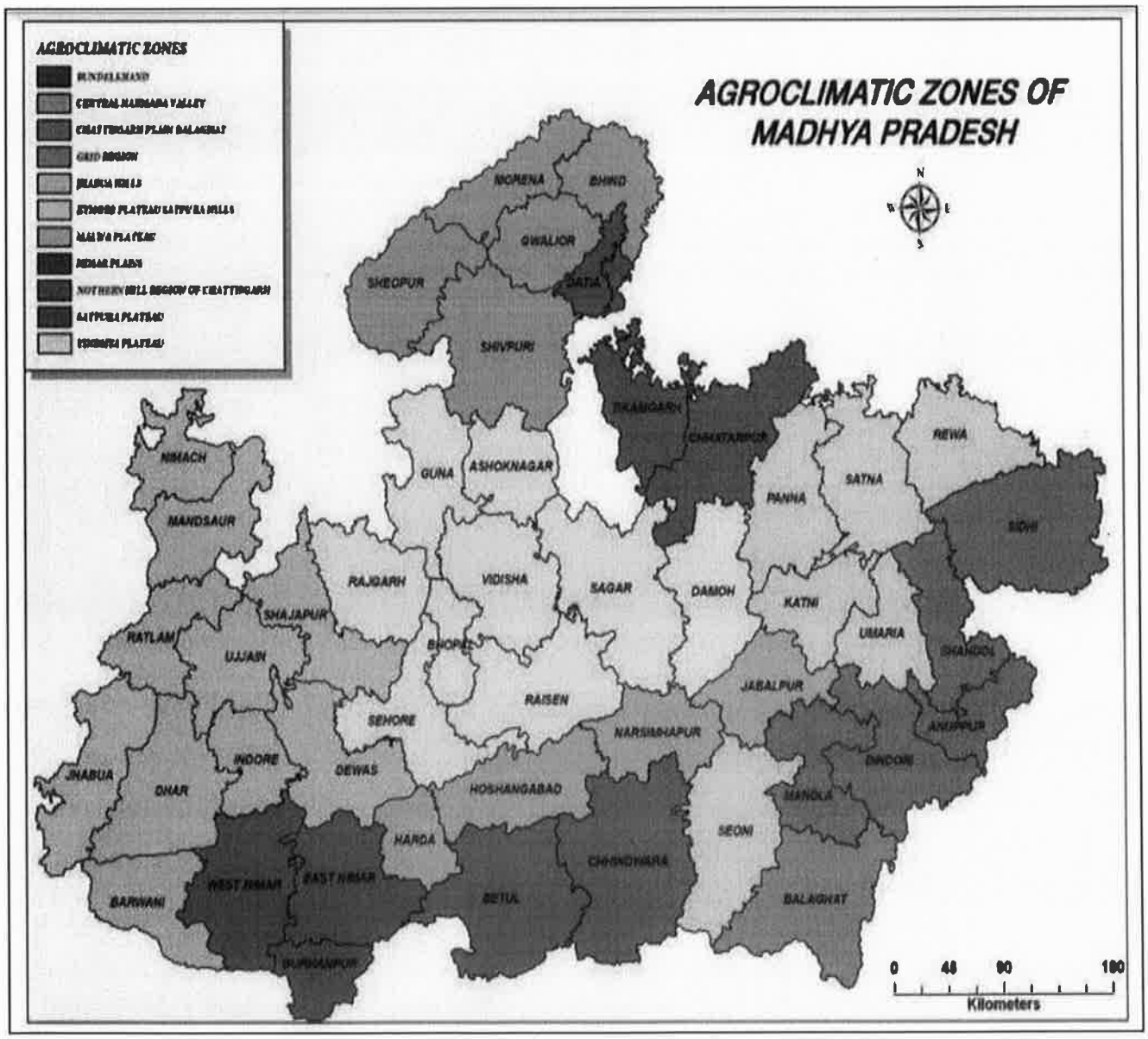
AGRICULTURE:

The soil of the district is alluvial. The level of the river banks land are also alluvial. The economy of the district is mainly based on agriculture. More than 50% land is under cultivation. The double crops i.e. Rabi and Kharif crops are wholly sown in the district. Under kharif crops jawar, bajra, rice, tuar, urad and moong are sown and under Rabi crops wheat, gram and mustard are sown. Mustard is sown in the largest area of the district. Main crops according to use of area is mustard 174,982 hect., wheat 81,506 hect, gram 12,704 hect, vegetables 608 hect's and spices in 239 hect.



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जिला कार्यालय (खनिज शाखा) मुरैना

MINING:

Morena district holds a distinct place in the state with respect to sand stone mining .
In the district mainly sand stone, clay, gitti, murum and sand are found.
Morena distt sand deposites in the Chambal river century which is probited for the sand mining.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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Physiography of the District

Morena district is extended in the north 250 17` to 260 52` latitudes and 760 30` to 780 33` East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

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Details of Month wise Rainfall data of 1year

Tehsil/ Month	PORSA	AMBAH	MORENA	JOURA	KAILARAS	SABALGRAH
Jan	2.0	3.0	3.0	2.0	7.0	3.0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	8.0	5.0	10.2	18.0	12.0	3.0
jun	23.0	13.0	27.0	14.0	42.0	67.0
jul	152.0	108.0	256.2	181.0	188.0	232.0
Aug	205.0	197.0	198.8	163.0	177.0	365.0
Sep	335.0	165.0	92.8	155.0	141.0	225.0
Oct	40.0	49.0	30.4	30.0	17.0	34.0
Nov	0	0	1.0	0	4.0	3.0
Dec	2.0	7.0	6.0	4.0	9.0	12.0

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जिला कार्यालय (खनिज शाखा) मुरैना

Rainfall of the District and Climate Conditions

Rainfall

Morena has a cool and dry climate .The hot weather starts from about the middle of April and lasts up to mid of May. The temperature in June touches 47 degree Celsius. By the end of June or by the 1st week of July, the monsoon breaks and the weather becomes cool, through humid. The district receives its rains from the Arabian Sea. The rains are over generally by end of September. Morena receives on an average 530 mm of rain.

Climatic Conditions

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 44.0 celsius. In cold season the district has freezing cold and temperature drops to 2.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September.

The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor.

The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jaura CD blocks. The forests are dry and autumnal Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) , wild boar , jackal , hyenas , peacocks , rabbits , foxes , porcupine, wolves , spotted deers and deers and are the wild life found.The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The black faced monkey (presliytic entallus) are seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). The common snakes in the district are cobra, craite, python etc.

Geology of the District

Vindhyan Super group of rocks of Meso to Neo-Proterozoic age, Laterites of Cainozoic age and Quaternary Alluvium are the rock types exposed in the area, The Vindhyan Supergroup in the area is represented by Kaimur, Rewa and Bhander Group of rocks. Kaimur in the area is represented Dudauni Sandstone. The rock is white to dirty white in colour, fine to medium grained, thinly to thickly bedded with interbands of siltstone at places. The rock is fine grained, thickly bedded and massive towards the top. The Rewa Group is represented by Jhiri Shales and Upper Rewa Sandstone. Jhiri Shale conformably overlies the Dudauni Sandstone with a sharp contact. The shale is predominantly argillaceous in nature and olive green to khaki, grey, chocolate brown to reddish brown, splintery and thinly bedded with minor interbands of siltstone containing numerous veins of calcite. The Upper Rewa Sandstone is represented by light grey to greenish grey, brown, pink, white to dirty white, fine to medium grained and moderately sorted glauconitic sandstone. The rock is quartzitic and flaggy to thickly bedded in nature, The Bhander Group, which overlies the Rewas with a gradational contact, is represented by Ganurgarh Shale, Lower Bhander Limestone, Lower Bhander Sandstone and Sirbu Shales. Ganurgarh Shale is the lower most formation of Bhander Group of rocks and is represented by greyish green, reddish brown to dark brown, purple coloured shale. The rock is friable, splintery to thinly laminated in nature. It is generally ferruginous, at places arenaceous and calcareous towards the top. It shows intercalations of limestone at places. Ganurgarh Shale is overlain by the Lower Bhander Limestone. Being an almost persistent horizon, the limestone forms good marker horizon. It is marked by occasional presence of intraformational breccia at the base. This limestone is typical ash grey in colour, fine grained, thinly to thickly bedded and shows elephant skin weathering and breaks along the conchoidal fractures. Overlying the Lower Bhander Limestone, the Lower Bhander Sandstone is exposed in the western part of the area. It is dirty white, pinkish to light brown colour, fine to medium grained, quartzitic and thinly to thickly bedded. Cross bedding of tabular and trough type are common in this rock. The overlying Sirbu Shale is greenish to greenish blue, pale grey, purple, red and brown in colour with thin interbands of siltstone at places. The shale generally thinly bedded and splintery.

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Laterite forms flat and slightly undulatory capping over the rocks of Vindhyan Supergroup. It occurs at two elevations between altitudes of 425 m to 530 m above m.s.l. It is dark reddish brown and red in colour and mainly consists of Haematite, Goethite, gibbsite, few opaques and quartz. Quaternary Alluvium consisting of unconsolidated to consolidated yellowish brown sand, silt and clay with gravel and pebbles forms the youngest formation exposed in the area. The thickness of the alluvium varies from a meter to more than 15m. The area exhibits good development of sedimentary structures viz, current bedding, ripple marks, rain prints, rib and furrow structures, ball and pillow structures, mud cracks, clay balls, concretion, load and flute structures etc. The general strike of the bedding is N-S to NNE-SSW with varying dips of 4 to 10° towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW- SE, NE-SW, E-w and NNE-SSW with vertical dips.

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जिला कार्यालय (खनिज शाखा) मुरैना

STRATIGRAPHIC STATUS

LITHOLOGY	*STRATIGRAPHIC STATUS*		*NATURE AND CHARACTERISTICS*
Alluvium	*Quaternary*		*Unconsolidated, semi consolidated and consolidated, grey to yellowish brown sand, silt and clay with gravel and pebble*
Laterite	*Cainozoic*		*Dark reddish brown and red in color, consists of limonite, goethite, gibbsite some opaque minerals and a few quartz Grains*
Sirbu Shale	*BHANDER GROUP*	***VINDHYAN SUPERGROUP***	*Greenish to greenish blue, pale grey, purple red and brown in color, thinly bedded, splintery, with interbands of Siltstone at places*
Lower Bhander Sandstone			*Dirty white, pinkish to light brown in colour, fine to medium grained, quartzitic, thinly to thickly bedded, cross bedding of both tabular and trough type present*
Lower Bhander limestone			*Ash grey in colour, fine grained, thinly to thickly bedded, shows elephant skin weathering and brakes along the concoidal fractures*
Ganurgarh Shale			*Greyish green, reddish brown to dark brown, and purple coloured, friable, splintery to thinly laminated, generally ferruginous, at places arenaceous and calcareous towards the top*
Upper Rewa Sandstone	*REWA GROUP*		*Light grey to greenish grey, brown, pink, white to dirty white in colour, fine to medium grained, moderately sorted, quartzitic, flaggy to thickly bedded and Glauconitic; shows intercalations of shale*
Jhiri shale			*Olive green to khaki, grey, chocolate brown to reddish brown in colour, splintery and thinly bedded with minor interbands of siltstone with calcite veins*
Dudauni Shale	*KAIMUR GROUP*		*White to dirty white, fine to medium grained, thick bedded and massive toward top.*

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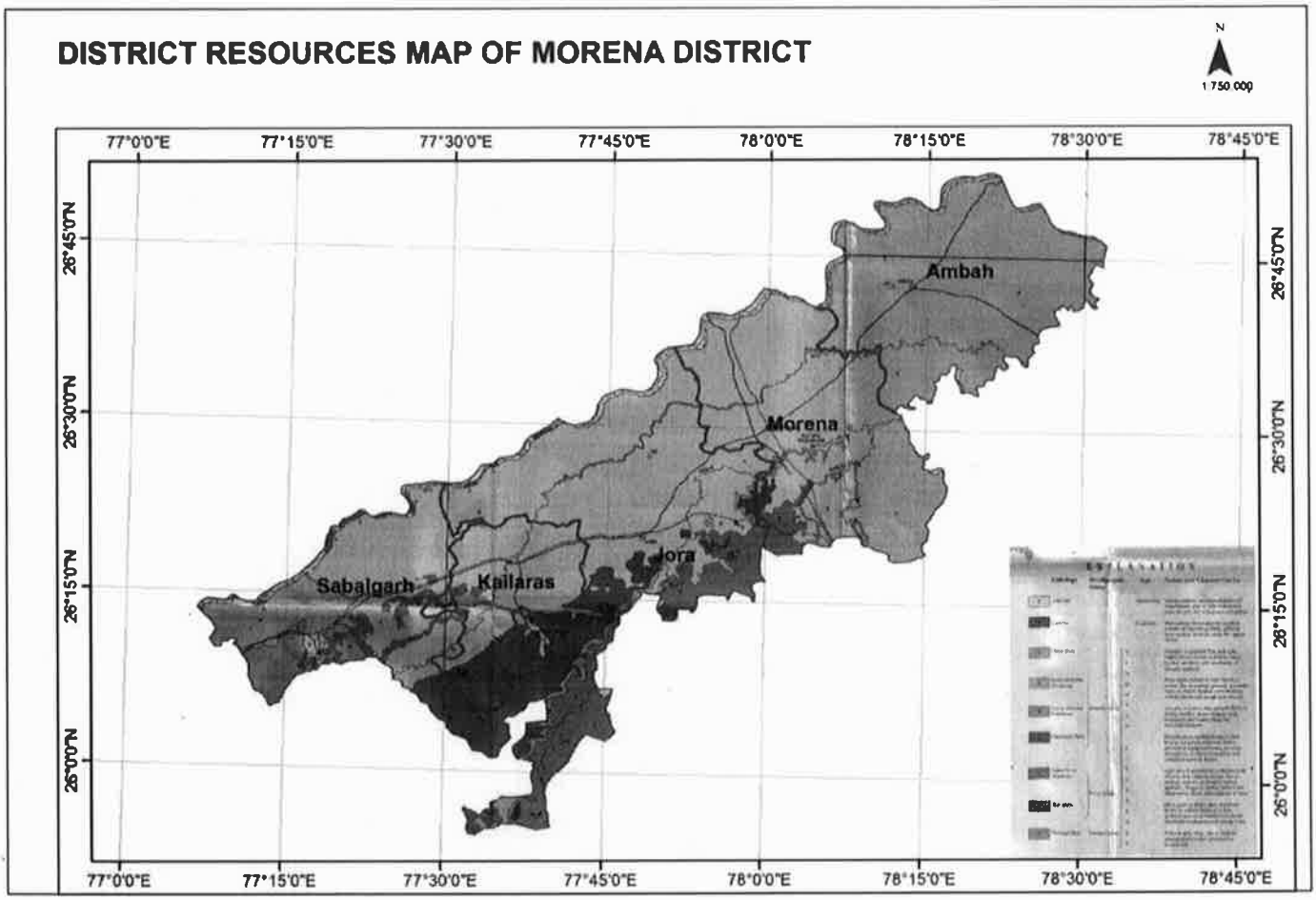
जिला कार्यालय (खनिज शाखा) मुरैना

Geological Map of the District



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जिला कार्यालय (खनिज शाखा) मुरैना

DRAINAGE

The district falls in drainage area of Ganges system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river :

This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river

This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river

The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Irrigation Practices

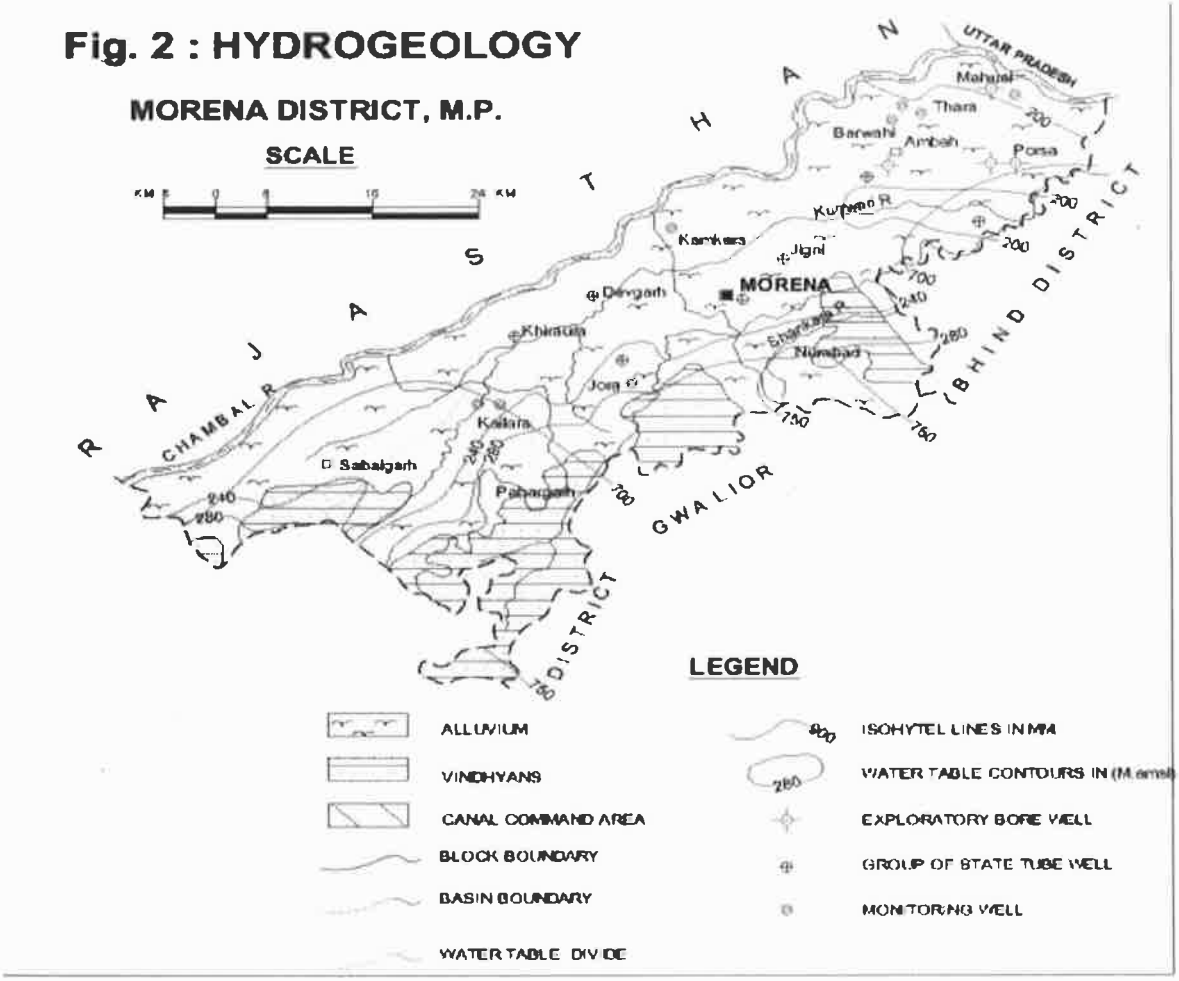
Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels.

Surface Water and Ground water scenario of the District

Ground Water SCENARIO

Hydrogeology The hydrogeological map of the district is presented as figure 2.

Fig. 2 : HYDROGEOLOGY



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and 3 pillow structures, mud cracks, clay balls, concretions, load and flute structures etc. The general strike of the bedding is North-South to NNE-SSW with varying dips of 4 to 10 degrees towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW-SE, NE-SW, E-Wand NNE-SSW with vertical dips. (GSI) The sandstones are hard and compact with siliceous matrix and as such are devoid of primary porosity and permeability. But wherever they are weathered and jointed secondary porosity and permeability is developed and made them water bearing. It is observed that sandstones in general are poorly and moderately weathered (2 to 4 metres) and at places they are jointed and do not posses sufficient ground water potential. Ground water occurs under water table condition and exists in weathered portions and in jointed zones. The shales are fine grinded and compact and are porous but are not permeable. At most places in most of the area shales are devoid of ground water but near river beds they form water bearing due to the presence of bedding planes and joints. Ground water occurs under water table conditions. The water holding capacity in alluvium mainly depends upon the thickness and the aerial extent. It is found that along the

banks of Chambal and Kanwari rivers, gully erosion is very common and spread over 1 to 2 Km away from the banks. It is more clayey and silty and as such has poor to moderate water bearing capacity. One or two aquifers are present in the formation and ground water is found to be under phreatic as well as semi confined to confined conditions. Central Ground Water Board had constructed 11 exploratory wells and 8 observation wells in the area. The details of aquifer zones, discharge, water levels and aquifer parameters etc., are given in Table 1. It is observed that Alluvium forms prolific aquifer whereas Vindhyans forms poor aquifer in the district.

4.1.1 Water levels

Water level data, including historical data, are essential not only to know the present ground water conditions but also for forecasting future trends in response to ground water reservoir operations. CGWB is monitoring 17 NHS wells in the district. Pre and Post monsoon depth to water level maps are prepared and presented (Fig 3 &4) 4.1.1.1 Pre- monsoon (May, 2012) Pre monsoon depth to water levels map is presented as figure 3. A perusal of map reveals that the depth to water level ranges from less than 5.6mbgl to 31.78 mbgl in the district. However, in major part the DTW is less than 28 mbgl. DTW of more than 30 mbgl was observed in an isolated patch in north eastern par

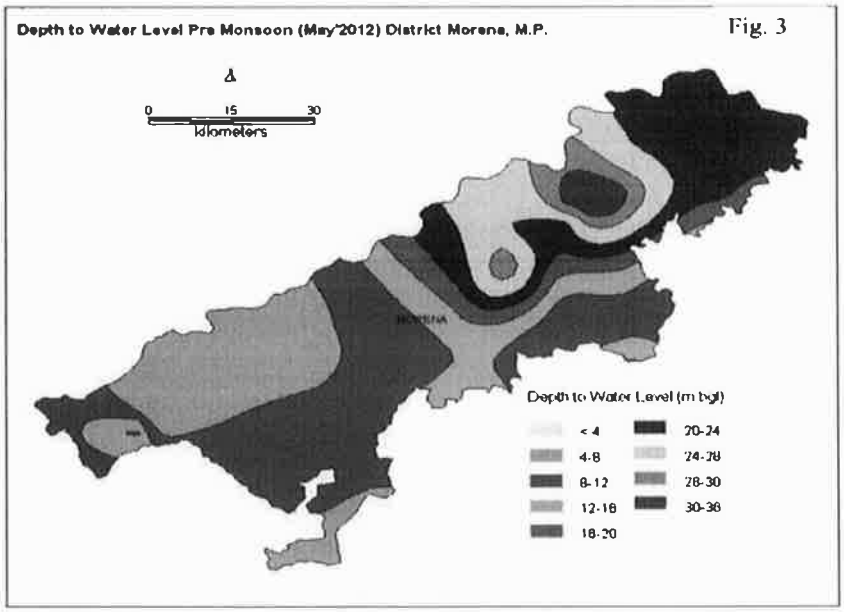


Fig. 3

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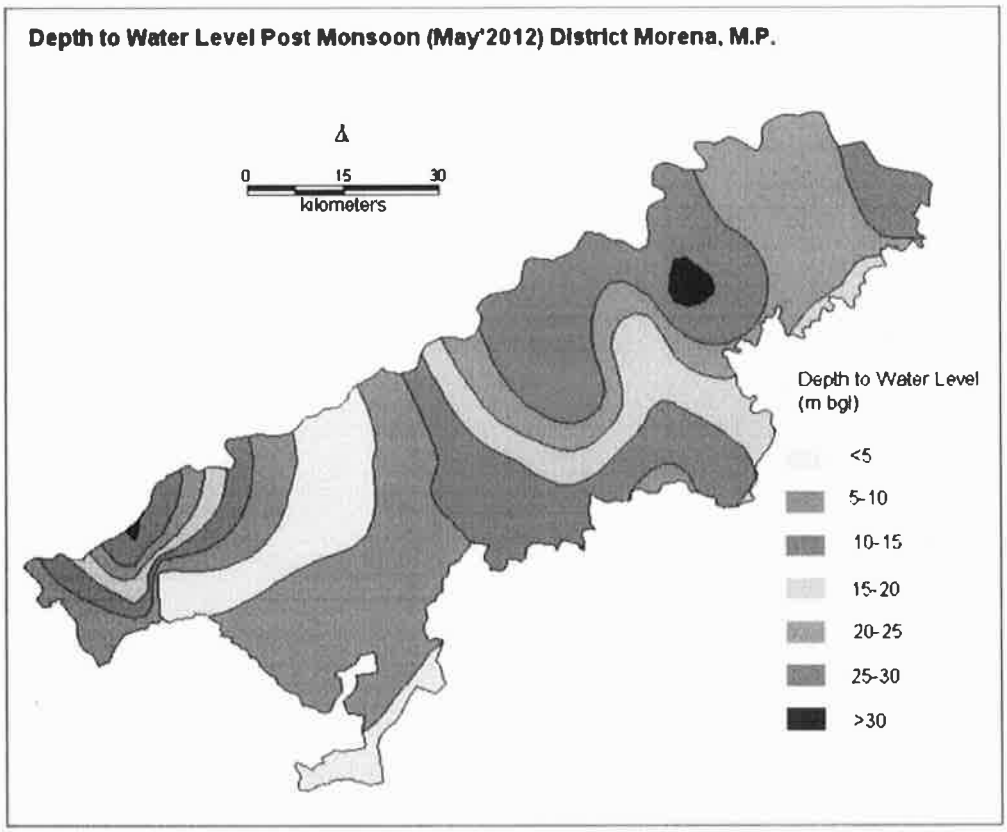
Post- monsoon (Nov. 2012)

Post monsoon depth to water level map is presented as figure 4. during post monsoon period, water levels ranges from 1.60 mbgl to 31.78 mbgl. However, in major part the depth to water level is less than 30 mbgl. Deeper water level of more than 30 mbgl is observed in two small isolated patches one each in western part and in north easten part. Long term water level trend for 10 years (2003-10) shows that there is overall decline in the area. The decline ranges from 0.61 cm/year to 106 cm/year.



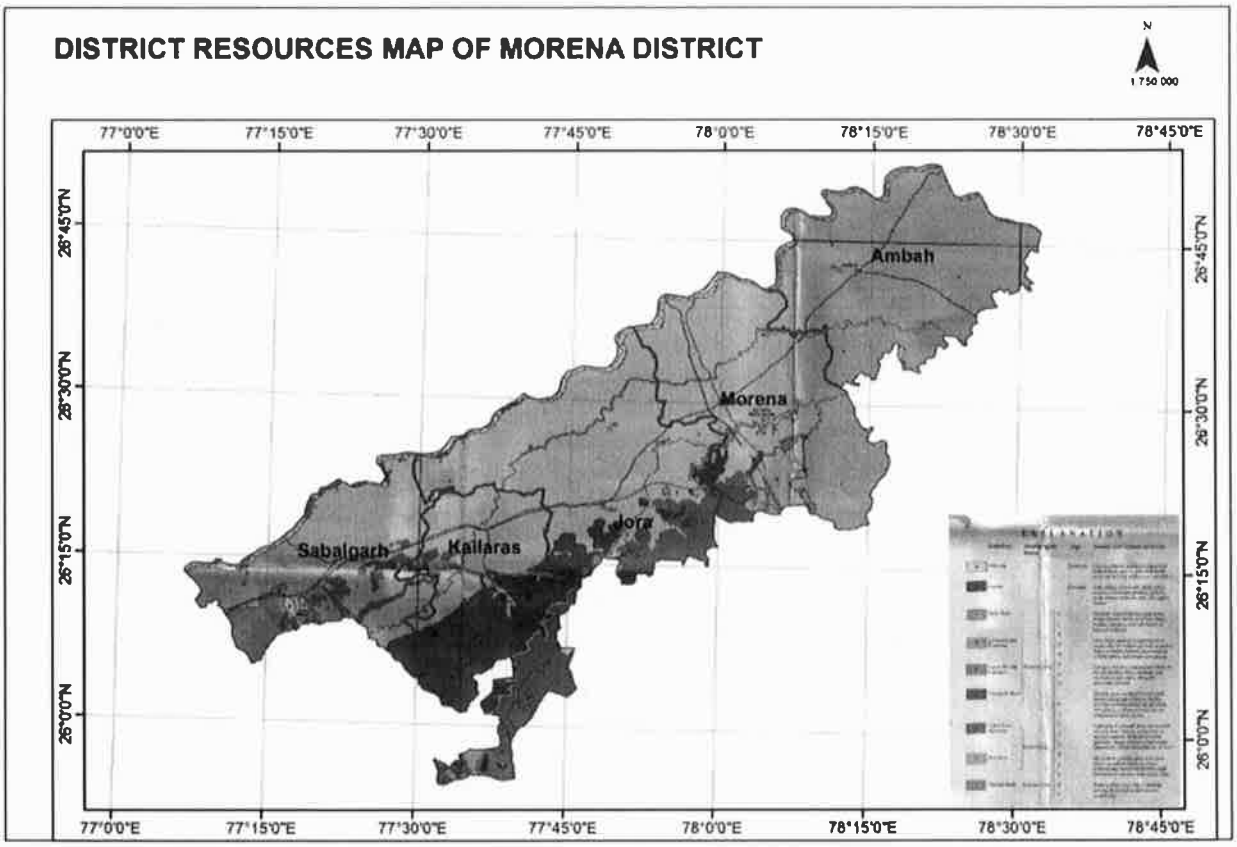
4.2 Ground Water Resources (2009)

Morena district is characterized by alluvial formation, Vindhyan Formation and Gwalior Series. Dynamic ground water resources of the district have been estimated for base year -2008/09 on block-wise basis (Table 2). There are seven assessment units (block) in the district which fall under command (48 %) and non-command (52 %) sub units. Non command areas of Kailaras , Morena and Sabalgarh blocks of the district are categorized as semi critical . The highest stage of ground water development is computed as 74 % in Morena block. The net ground water availability in the district 64,244 ham and ground water draft for all uses is 27,597 ham, making stage of ground water development 43% as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 34,232 ham.

4.3 Ground Water Quality

Ground water quality in Morena district is assessed annually by CGWB on the basis of analysis of ground water samples collected from hydrograph stations located in the district. The Electrical conductivity ranges from 550 to 2080 µS/ cm at 25°C. The Fluoride is within permissible limits and ranges from 0.06 mg/l to 1.4 mg/l. The Nitrate ranges from 2.5 mg/l to 298 mg/l.

Mineral Map of the District



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Total Mineral Reserve available in the District

Total mineral reserve available in the district

S. no.	Mineral Name	Total Mineral Reserve
1.	Crusher gitti	5494402 Cu. M.
2.	Flagstone	310575 Cu. M.
3.	Murrum	260125 Cu. M.
4.	Clay For Bricks	567000 Cu. M.
5.	Khanda	226807 Cu. M.
6.	Boulder	19726 Cu. M.

Quality/Grade of Mineral available in the District

There is quality of mineral available as a minor grade is present in the Morena District. As we have assessed mineral availability of the district is fare and acceptable quality and it has commercial value. There are various minerals and ore available in the district as it is given in our next chapter

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Demand and supply of the Mineral In last three Year

Minerals Name	Year wise Supply according to Demand			Remark
	2018-19	2019-20	2020-21	
				MinorMineral
Flag stone	37240	34922	39395	Mainly it is used for Construction purpose. Flagstone supply is on the basis of demand on the market
Khanda	18890	9896	14061	
Boulder	0	2700	45500	
Murum	3754	28275	40533	It is a mixture of minerals, organic matters, gravels, rock particles etc. Murrum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.
Stone/Gitti	239462	400108	973864	minor mineral such as stone /Gitti , sand are supply basis of demand on the market
Sand	0	0	0	

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Details ofEco– Sensitive Area,

This Sanctuary was established in 1978 and is spread across an area of 435 sq km. The National Chambal Sanctuary is famous for the rare gangetic dolphin. Apart from which, the other inhabitants of the sanctuary include magar (crocodile) and gharial (alligator), chinkara, sambar, nilgai, wolf and wild boar. As the Sanctuary is basically situated in the river, fairs are organised on every religious occasion, such as Somvati Amavasaya, Lunar Eclipse Solar Eclipse, Ganga Dashhara etc. The fairs are organised at different Ghats of the river Chambal, Fort of Ater, Fort of Pinahat, Padhawali Archeological spot of Kuntalpur, Kakanmath temple. Other destinations close to the Sanctuary are Agra, Gwalior, Kakanmath temple, Bird Sanctuary Bharatpur, etc. Forest rest houses are available for accommodation at Etawah, Bah, Baiwan, Chakar Nagar and Sarson.

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Impact on the Environment due to Mining Activity

Generally, the Environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project, secondary impacts are those, which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the baseline environmental status for the entire ROM which is proposed to exploit from the mines.

Air

Mining Operations are carried out by opencast semi mechanized/ Mechanized method, dust particles are generated due to various activities like, Excavation, Loading, handling of mineral and transportation. The air quality in the mining area depends upon the nature and concentration of emissions and meteorological conditions. The major air pollutants due to mining activity includes: -

- Particulate Matter (Dust) of various sizes.
- Gases, such as, Sulphur Dioxide, Oxides of Nitrogen, Carbon Monoxide etc., from vehicular exhaust.
- Dust is the single Air pollutant observed in the open cast mines. Diesel operating drilling machines, small amount of blasting and movement of machinery/ vehicles produce gaseous (NO_x and SO_x) emissions, usually at low levels. Dust can be of significant nuisance surrounding land users and potential health risk in some circumstances.

Water Impact

The mining operation leads to intersection of the water table which causes ground water depletion. Due to the interruption surface water sources like River, Nallah, Odai etc., surface water system, Drainage pattern of the area is altered.

Noise

Noise pollution is mainly due to operation of Machineries and occasional plying of machineries. These activities will create Noise pollution in the surrounding area.

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Land Environment

The topography of the area will change; due to the Topographical changes the entire Eco system will be altered.

Flora and Fauna

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics. Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and floral status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

Remedial Measure to mitigate the impact of Mining on the Environment:

Air

Mitigation measures suggested for air pollution controls are based on the baseline ambient air quality of the area

The following measures are proposed to be adopted in the mines such as,

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be considered.
- Transport of material in trucks covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine areas.
- Information on wind direction and meteorology will be considered while planning, so that pollutants, which cannot be fully suppressed by engineering technique, will be prevented from reaching the nearby agriculture area.
- Comprehensive green belt around overburden dumps has to be carried out to reduce to fugitive dust emissions in order to create clean and healthy environment.

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Water

- Construction of garland drains to divert surface run-off into the mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.

Noise

- Periodic maintenance of machinery, equipment shall be ensured to keep the noise generated at minimum.
- Development of thick green belt around mining area and haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities. Workers and operators at work site will be provided with earmuffs.
- Conducting periodical medical check-up of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise level effects.
- Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficiency of adopted control measures.
- During the blasting, optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate as approved by Director of Mines safety.

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Land Environment

- Riparian vegetation should be developed that doesn't stress with changes over short period of time.
- Safety barrier zone should be left out in order to prevent quick sand condition or rapid erosion of river banks.
- Development of suitable greenbelt in safety and barrier zone
- Waste dumps should be stabilized taking proper measures
- Degradation of land environment should be checked by briefing the worker about routine works regarding cleanliness and proper mining measures.
- No such infrastructure or any construction should be done that might hinder the natural flow of the river.

Biological Environment

- Development of gap filling saplings in the safety barrier left around the quarry area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy leaves on the inactive mined out upper benches.
- Development of dense poly-culture plantation using local flora species in the mining area at conceptual stage.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.
- Construction of garland drains and settling tank to arrest silt wash off from lease area.
- Construction of retention walls around lower boundary of mining area to arrest silt wash off and roll down boulders.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.

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Reclamation of Mined out area

There is no proposal for backfilling, reclamation and rehabilitation. The quarry pit should be fenced by barbed wire to prevent inherent entry of public and cattle. The quarried out pit will be allowed to collect rain and seepage water which act as a reservoir for storage. The Quarried pit may be used as water reservoir for both Domestic and Agriculture purpose, in case of stone mining and inland sand mining. For River sand mining, the quarry should be demarcated using pillars and left for replenishment during monsoon season. No mining should be undertaken during monsoon period to avoid accidents and mishaps.

Details of the area of where there is cluster of mining lease viz no. of mining lease location.

Details of the cluster of Mining Lease

S. No.	Tehsil	Name of the Lease	Khasra No	Area in ha.
----------NIL----------				

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जिला कार्यालय (खनिज शाखा) मुरैना

Sand Replenishment Plan and Projections

Sand Replenishment Assessment

The process of sand replenishment is highly dependent upon the rainfall received in the catchment areas of rivers and their tributaries and velocity of river. It is a dynamic process. Thus it is difficult to predict, what quantity of sand may be reclaimed/ replenished by river. Because, in case of less rain, less water in the river, there may be less erosion and transportation may also be minimal and as a result deposition too will be less. Moreover, in case of floods, the sudden gush of water may force the change in river course, thus old sites of sand deposition may not be relevant. Thus, the above figures may just be a mere prediction, based on the production in the preceding years. More so, practically, it is not possible that in such a short period, single person can visit each spot within the district and determine how much quantity of sand may be replenished every year. The data narrated in the report, regarding annual deposition of sand and associated aggregates and minable mineral potential is concerned, is only an estimation based on the production data provided by the district mining office. Thus, the figures may vary from area to area and year on year basis. Therefore, this document is not a static one but have to be a dynamic one, the figures of which may vary with respect to the area under question for which the prior environmental clearance will be sought.

In order to establish a safe extraction limit, such that the extracted sand gets replenished annually, a replenishment study is to be carried out. For this purpose, the river bed RL at selected points in the dry portion of riverbed will be measured during pre-monsoon period and again during post- monsoon period in order to assess the annual quantum of sand deposition. If it is observed that, there is an average increase in riverbed RL, it shows that it is due to deposition of sand during the monsoon flow of the river and by multiplying it with the area of lease one can measure the quantity of sand replenished every year. Sand quarrying from the river bed will have both positive and negative impacts.

NEGATIVE IMPACTS

It includes destruction of natural river course, sand erosion, bank erosion, bank cutting and widening and deepening of river bed, change in hydrological status and recharging conditions and destruction to closely linked flora, fauna and aquatic life.

POSITIVE IMPACTS

Employment and socio-economic status of the habitats living besides the river depends on sand mining industries. Construction of concrete infrastructure, roads and some other related activities depends on the river bed sand. Continuous accumulation of sand ultimately leads to the reduction in water carrying capacity of the river leading excessive flood in the river. Sustainable extraction of sand from river will lead to overcoming the problem.

Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.

Need for Sand Replenishment Study and Factors tobe considered

Environmental status of the mined out area may be affected badly if proper care is not taken to ensure sustainable extraction of sand from river bed. Proper study of the following factors must be taken into consideration to reveal the actual potential of sand deposition in river course after completion of periodical excavation annually. The main factors to be considered for the study of the replenishment potential of particular river course are:

Formation of sand comprises of the following:

- Catchment area and geographical strata
- Erosion, weathering and transportation of load
- Climatic conditions, precipitation
- Geomorphology, physiographic manmade structures and activity details

Deposition/sedimentation of material or sediment yield depends upon several factors like:

- Catchment area
- Span of river/ flood plain
- Travelling distance of suspended particles
- Slope/gradient/ depth of water channel;/meandering of river
- Geology traversed
- Climatic conditions
- Tributaries/ confluence
- Type/ stage of river and flow velocity
- Flow during lean period

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Risk Assessment & Disaster Management Plan:

The Disaster Management Plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/induction conducted by the respective department from time to time.

General Responsibilities during an Emergency

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

Co-ordination withLocal Authorities

The mine manager who is responsible for emergency will always keep a jeep ready at site. In case any eventualities the victim will be taken to the nearby hospitals after carrying out the first aid at site. A certified first aid certificate holder will be responsible tocarry out the first aid at site. The mine manager should collect and have adequate information of the nearby hospitals, fire station, police station, village Panchayat heads, taxi stands, medical shop, district revenue authorities etc., and use them efficiently during the case of emergency.

Disaster Management Plan

The objectives of DMP are to describe the company's emergency preparedness, organization, the resource availability and response actions applicable to deal with various types of situations that can occur at mines in shortest possible time.

Thus, the overall objectives of the emergency plan are summarized as: -

- Rapid control and containment of Hazardous situation
- Minimum the risk and impact of event/ accident
- Effective prevention of damage to property.
- In order to achieve effectively the objectives of emergency planning, the critical elements that form the backbone of Disaster Management Plan (DMP) are: -

- Reliable and early detection of an emergency and immediate careful planning.
- The command, co-ordination and response organization structure along with availability of efficient trained personnel.
- The availability of resources for handling emergencies.
- Appropriate emergency response action.
- Effective notification and communication facilities.
- Regular review and updating DMP.
- Training of the concerned personnel.
- Steps taken for minimizing the effects may include rescue operations, first aid, evacuation, rehabilitation and communicating promptly to people living nearby.

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of Mines, State Government.

Details of the Occupational Health issues in the District:

Open cast method involves dust generation by excavation, loading and transportation of mineral. At site, during excavation and loading activity, dust is main pollutant which affects the health of workers whereas environmental and climatic conditions also generate the health problems. Addressing the occupational health hazard means gaining an understanding of the source (its location and magnitude or concentration), identifying an exposure pathway (e.g., a means to get it in contact with someone), and determination of likely a receptor (someone receiving the stuff that is migrating).

Occupational hazard due to open cast mining mainly comes under the physical hazards. Possible physical hazards are as below: -

Physical Hazards due to Mining Operations:

Following health related hazards were identified in open cast mining operations to the workers:

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Light: - The workers may be exposed to the risk of poor illumination or excessive brightness.The effects are eye strain, headache, eye pain and lachrymation, congestion around the cornea and eye fatigue. In present case, the mining activity is done during day time only.

Heat and Humidity: - The most common physical hazard is heat. The direct effects of heat exposure are burns, heat exhaustion, heat stroke and heat cramps; the indirect effects are decreased efficiency, increased fatigue and enhanced accident rates. Heat and humidity are encountered in hot and humid condition when temperatures and air temperatures increase in summer time up to 46.10C or above in the river bed mining area.

Eye Irritation: - During the high windy days in summer the dust could be the problems for eyes like itching and watering of eyes.

Respiratory Problems: - Large amounts of dust in air can be a health hazard, exacerbating respiratory disorders such as asthma and irritating the lungs and bronchial passages.

Noise Induced Hearing Loss: - Machinery is the main source of noise pollution at the mine site.

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Plantation and Green Belt Development in respect of lease granted in the District:

Mining activities result in pollution of the environment. This requires protection of our environment. Plantation is the oldest technology for the restoration of the land damaged by the human activities as well as air pollution.

Trees are highly suitable for the detection and monitoring of the air pollutants and have been effectively used at various places

By planting trees we can achieve the dual purpose of bio aesthetics as well as mitigation of pollution. Proper planning and plantation scheme depends upon the magnitude and type of pollution, selection of pollution tolerant and dust capturing plants

The plants should be ever green, large leaved, with rough bark, ecologically compatible, with low water requirement, requiring minimum care, capable to absorb pollutants, pollutant resistant, agro climatically suitable, fast growing, free from wind throw and breakage and with high pollution tolerance index. The specious should be suitable to the climate, topography and soil. A minimum two rows of plantation will be carried out to minimize the effect of pollution. This would attenuate the pollutants level.

However the afforestation should always be carried out in a systematic and scientific manner. It is proposed to carry the plantation along the river bank, both side of approach roads by considering 80% rate of survival. Trees like Karanj, Sheesham, Mango, Neem and some other varieties will be planted in consultant with forest department.

Recommended Plant species for green belt development/plantation

S.No.	Botanical Name	Family	Common Name
1.	Azadirachta indica	Meliaceae	Neem
2.	Ficus religiosa	Moraceae	Pipal
3.	Dalbargiasissoo	Fabaceae	Shisham
4.	Terminalia elliptica	Combretaceae	Saja
5.	Cassia Fistula	Caesalpiniaceae	Amaltas
6.	Sanegalia catechu	Mimosaceae	Khair
7.	Terminalia arjuna	Combretaceae	koha
8.	Bombax ceiba	Malvaceae	Semal
9.	Diospyros melanoxylon	Ebenaceae	Tendu
10.	Madhuca indica	Sapotaceae	Mahua
11.	Syzygium cumini	Myrtaceae	Jamun

Plantation has been done by project proponent on Barrier Zone, Non Mining Area, Approach road, nearby river bank and ravines etc. as per the suggestions of the authority.

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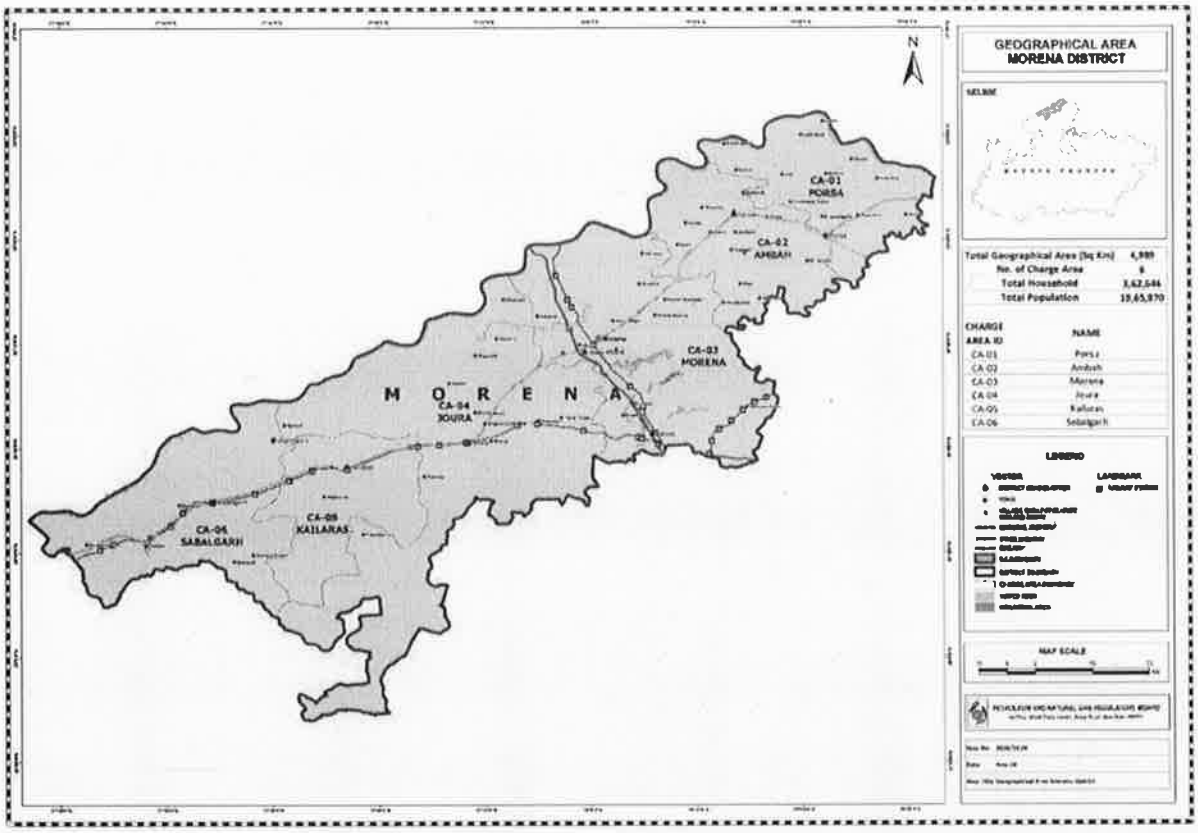
D.S.R. RELATED MAP DISTRICT MORENA



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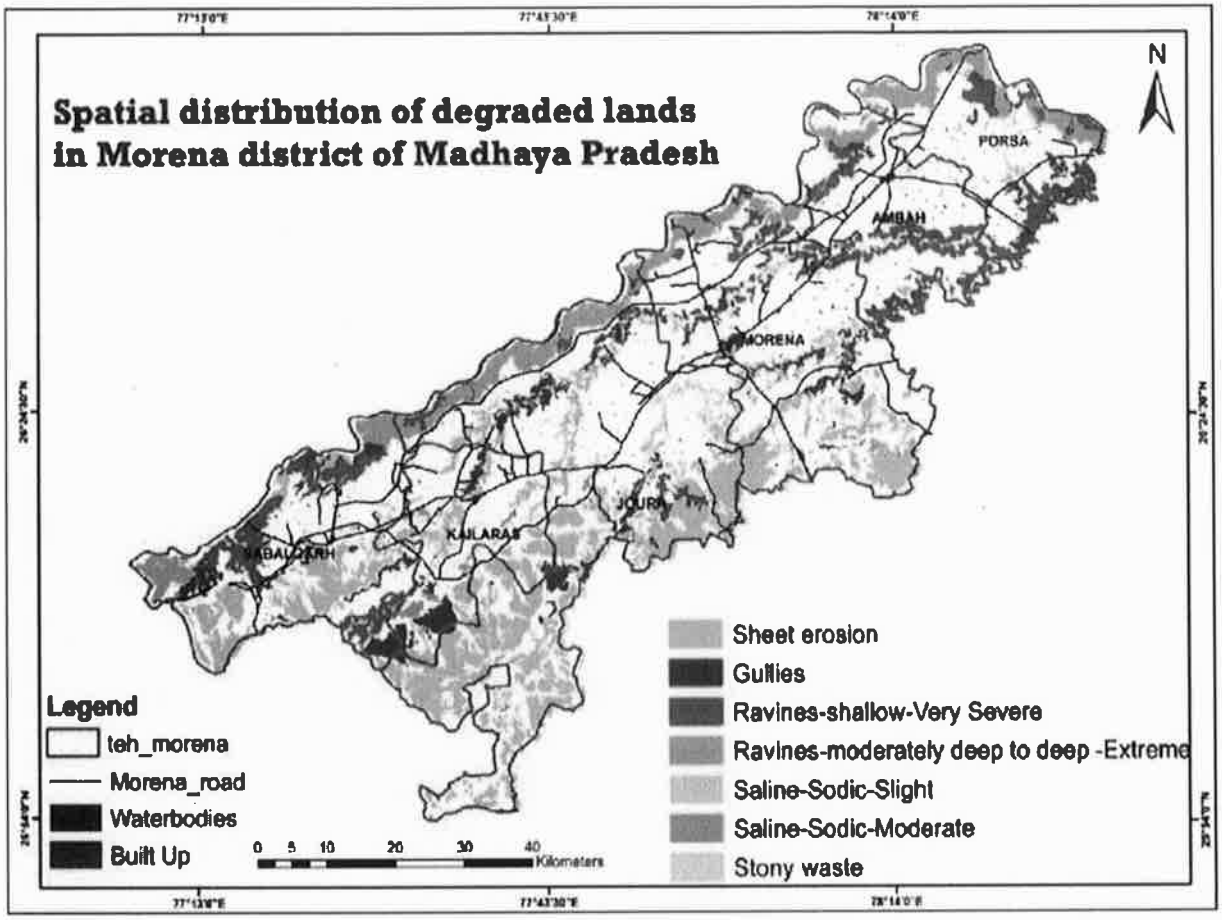

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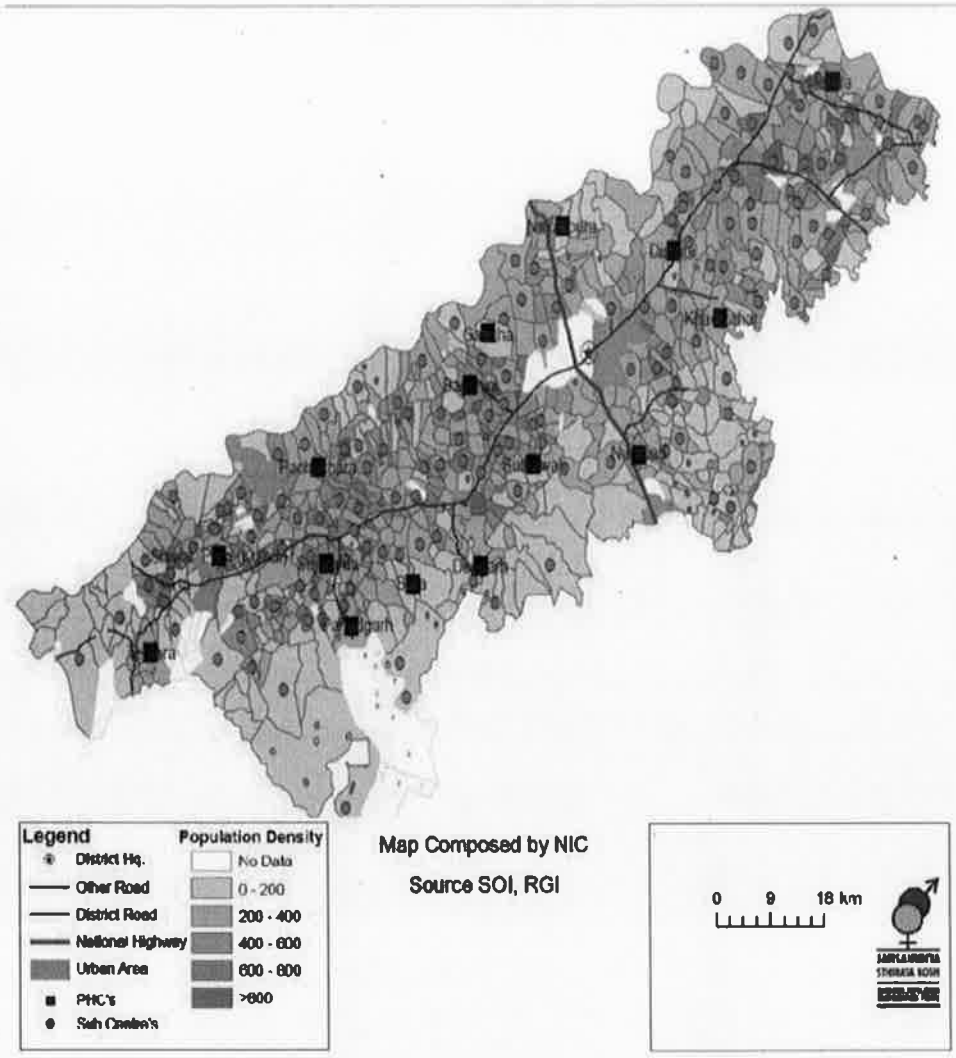

Map 8.1.6 showing population density, PHCs and Sub Centres in Morena, Blood bank is present in the District Headquarter shown above

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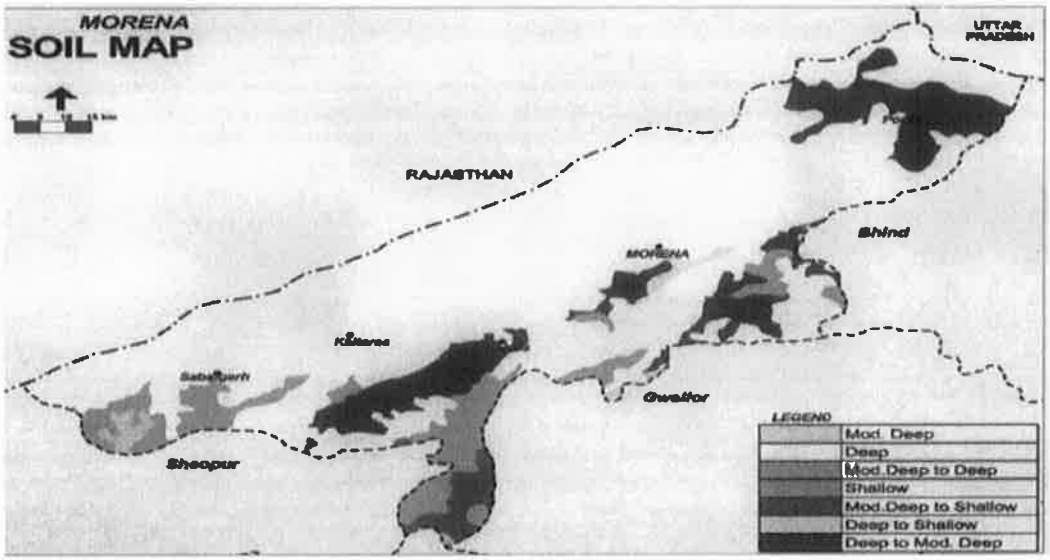
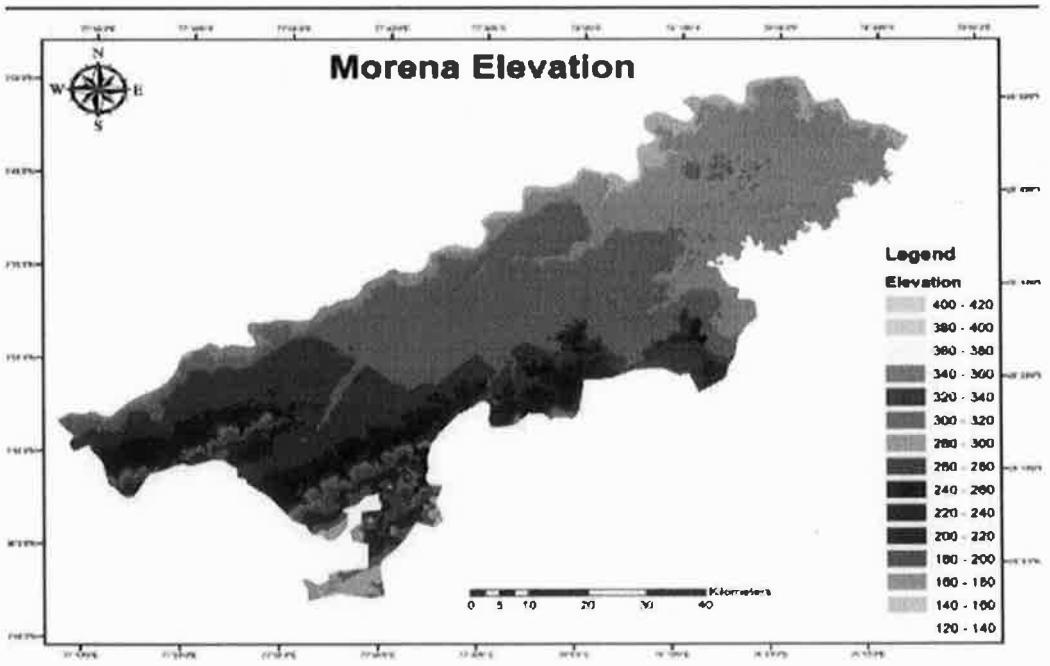


Map 8.1.4 Soil profile map of Morena



Map 8.1.5 Elevation map of Morena

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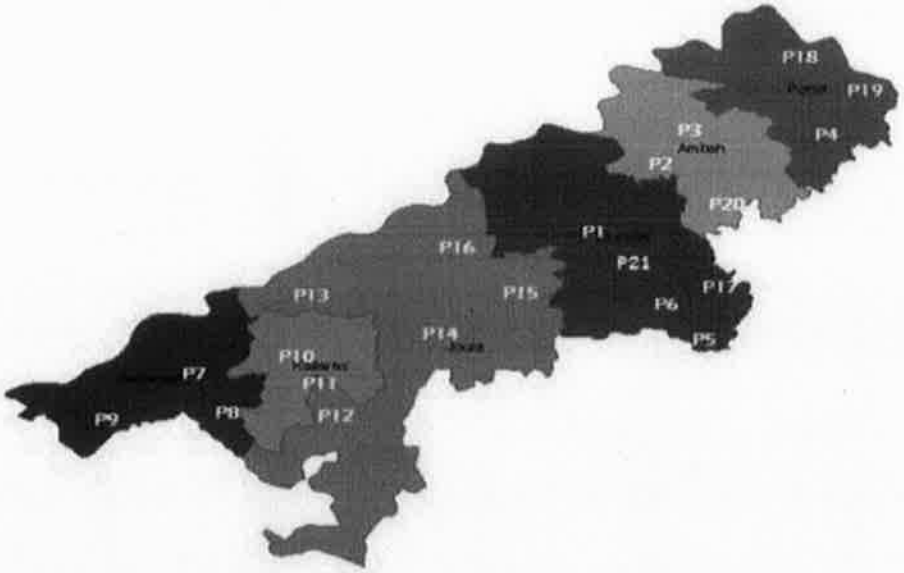

Legend

P1	Morena (Kotwali and Civil Lines)	P11	Nirar
		P12	Pahargarh
P2	Dimni	P13	Chinnoni
P3	Ambah	P14	Joura
P4	Porsa	P15	Sumawali
P5	Banmore	P16	Bagchini
P6	Noorabad	P17	Rithora
P7	Sabalgarh	P18	Malhua
P8	Rampur	P19	Nagara
P9	Tentra	P20	Sithonia
P10	Kailaras	P21	Matabasoi

Map 8.1.7 Showing the Police Thanas in Morena district

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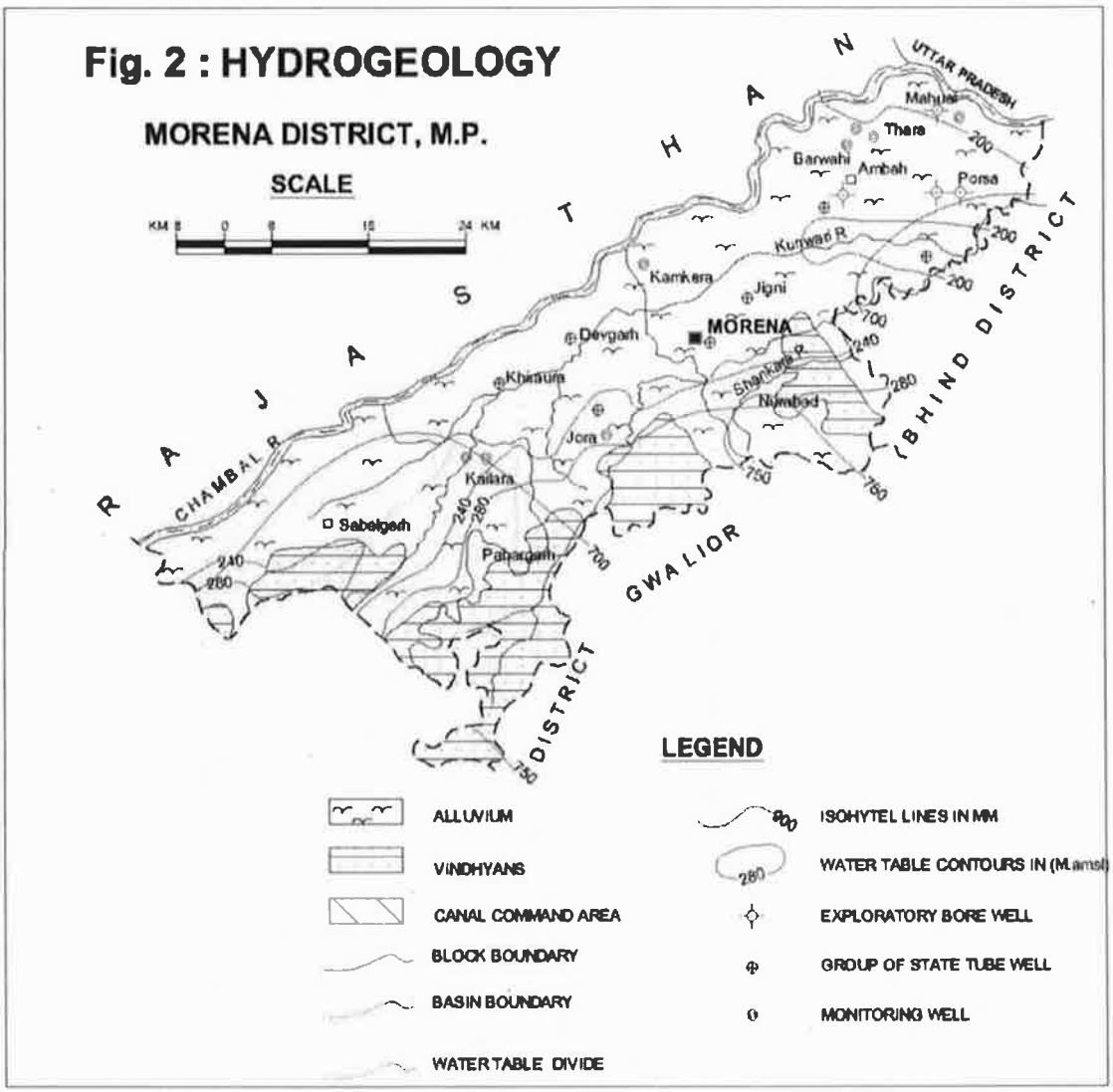
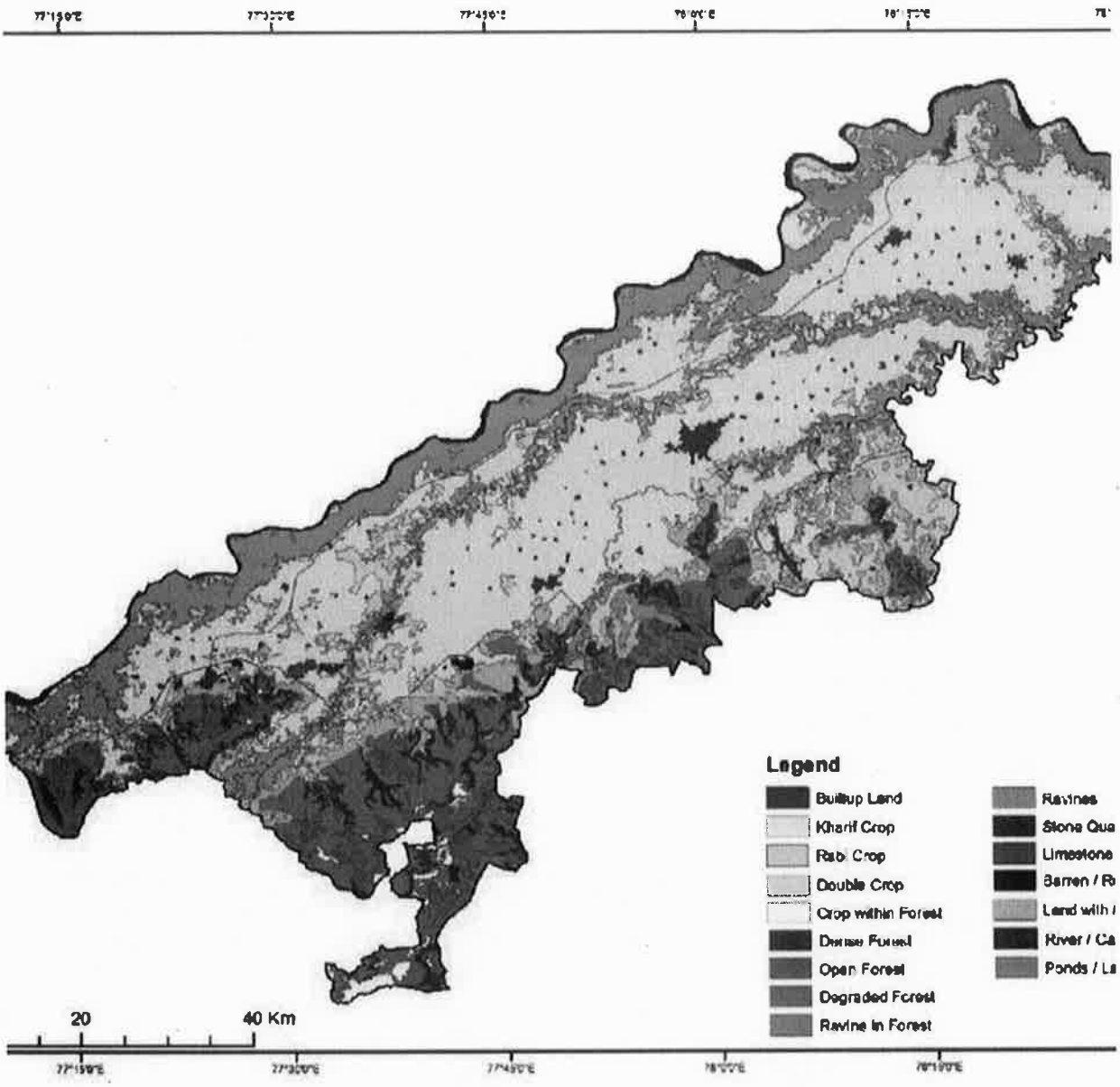
4.0 GROUND WATER SCENARIO

4.1 Hydrogeology

The hydrogeological map of the district is presented as figure 2.



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and

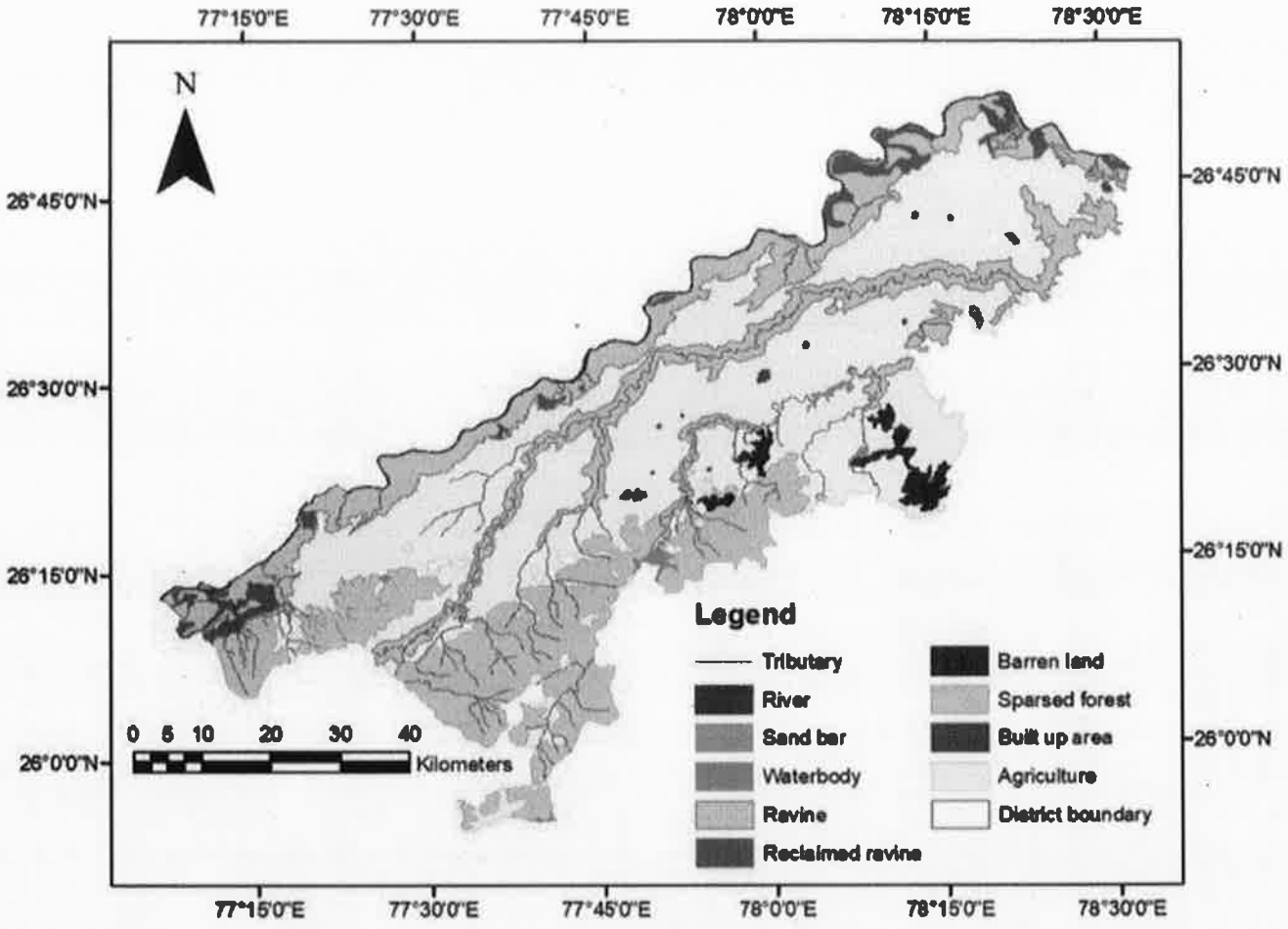


State Level Environment Impact Assessment Authority, M.P.

E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

Land use /Land cover Map of Morena District 1974



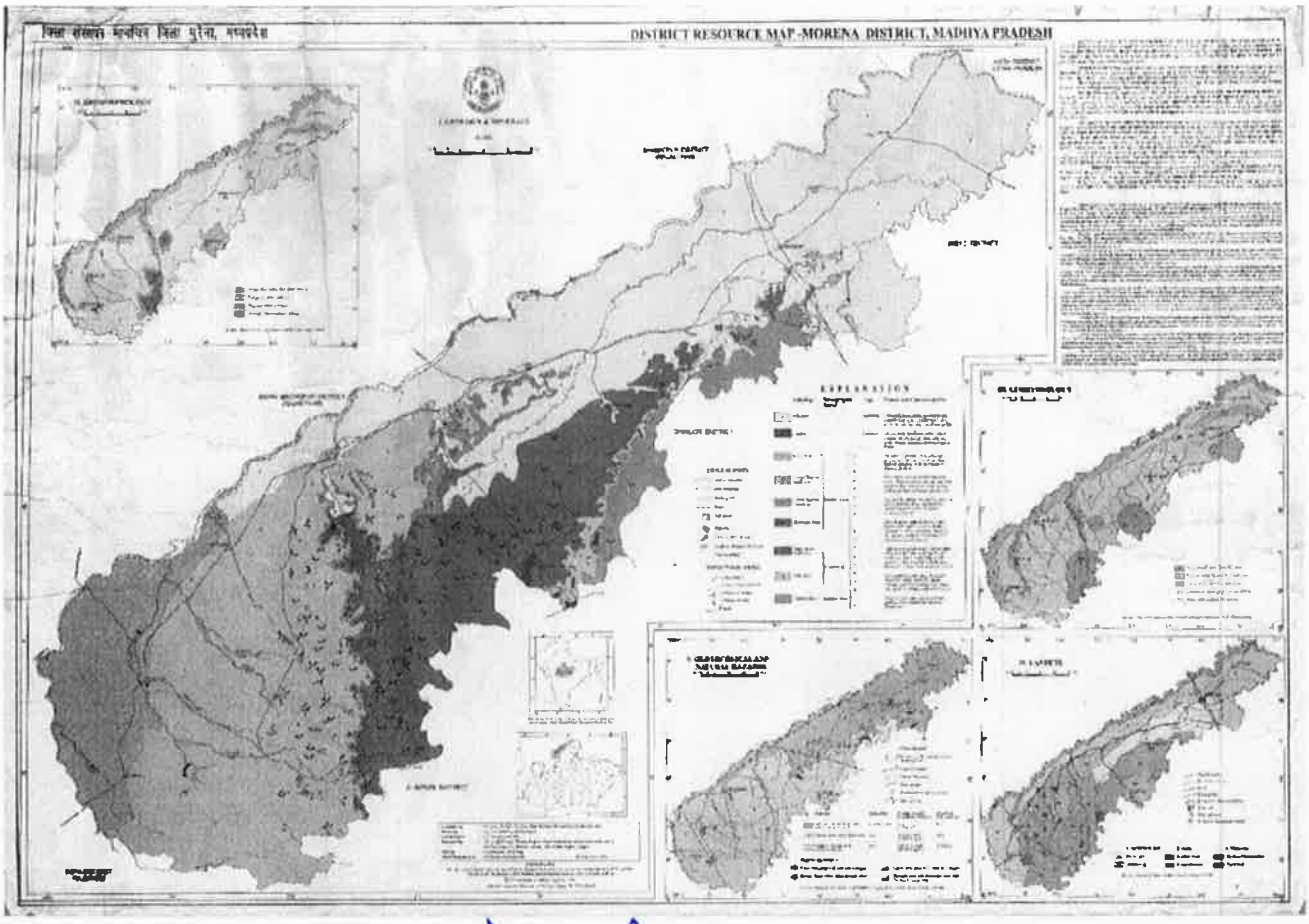
State Level Environment Impact Assessment Authority, M.P.

जिला कार्यालय (खनिज शाखा) मुरैना

Map 8.1.1 District Map of Morena

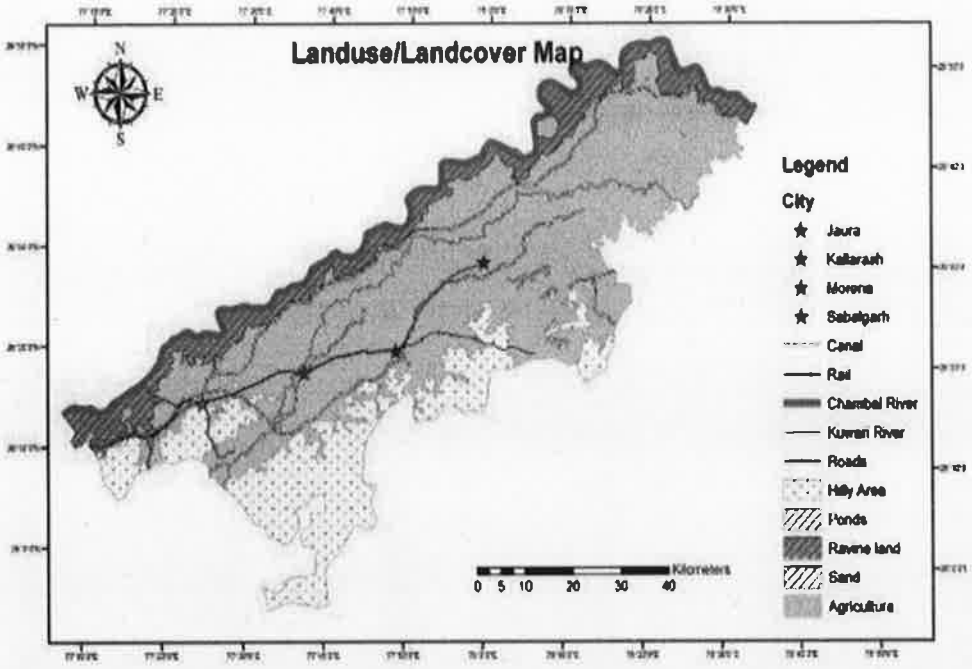
State Level Environment Impact Assessment Authority, M.P.

जिला कार्यालय (खनिज शाखा) मुरैना

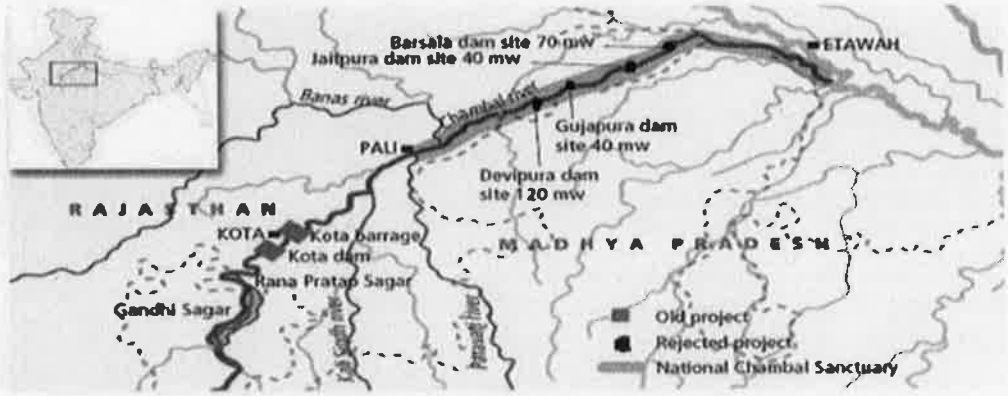


State Level Environment Impact Assessment Authority, M.P.

जिला कार्यालय (खनिज शाखा) मुरैना



Map 8.1.2 Land-use/Land-cover Map of Morena



Map 8.1.3 Showing the Chambal River, National Chambal Sanctuary and Kota dam and barrage – flood in the Chambal River valley areas occurs when Chambal River overflows due to release of excess water into the river by the Kota barrage

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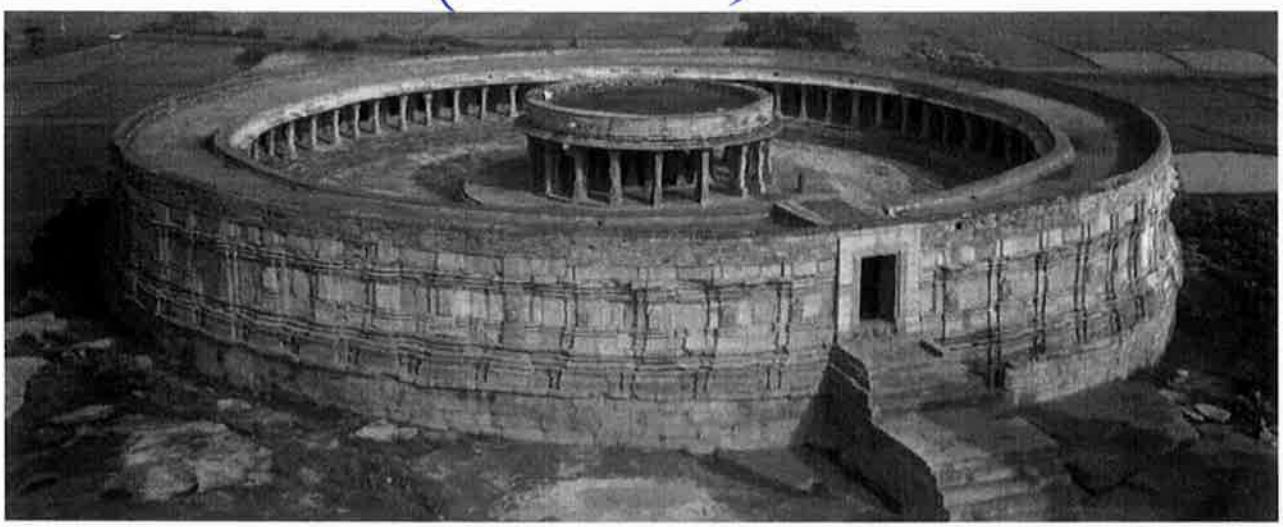
GOVERNMENT OF
MADHYA PRADESH

DISTRICT SURVEY REPORT OF MORENA

(Stone 'Gitti')



Prepared by
SUB DIVISIONAL COMMITTEES,
MORENA(M.P)

State Level Environment Impact
Assessment Authority, M.P.
(EPCO)
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

क्रमांक/खनिज/DSR/2022–23/996 मुरैना,दिनांक 16.09.2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC)
म.प्र. प्रदूषण नियंत्रण बोर्ड,
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– संशोधित जिला सर्वेक्षण रिपोर्ट **(DSR)** मय निर्धारित फॉर्मेट अनुसार तैयार कर प्रस्तुत करने बावत्।

संदर्भः– 1–कार्यालयीन पत्र कं0/खनिज/DSR/2022–23/953 मुरैना दि. 30.08.2022।
2–वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022।

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कृपया संदर्भित पत्र का अवलोकन करने का कष्ट करें, जिसके द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662/2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेष दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020 के तहत् रेत खनिज से भिन्न अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) के लिये तैयार कर अग्रिम कार्यवाही हेतु भेजी गई थी।

आपके द्वारा वीडियो कॉन्फ्रेसिंग दिनांक 06.09.2022 में दिये निर्देशानुसार मुरैना जिले की अन्य गौण खनिज केशरगिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा) पृथक–पृथक जिला सर्वेक्षण रिपोर्ट (D.S.R.) मय निर्धारित फॉर्मेट (16 बिन्दुओं) अनुसार वीडियो कॉन्फ्रेसिंग में दिये निर्देशानुसार के पालन में तैयार कर पत्र के संलग्न अग्रिम कार्यवाही हेतु कृपया सादर प्रस्तुत है।

संलग्नः–
(D.S.R.) की संशोधित प्रतियां
1–मुरम
2–फर्सीपत्थर
3–मिट्टटी (चिमनीभटटा)
4–केशरगिटटी

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

क्रमांक / खनिज / DSR /2022–23 / 953 मुरैना,दिनांक 30/08/2022

प्रति,

सदस्य सचिव
राज्य स्तरीय विशेषज्ञ, मूल्यांकन समिति (SEAC),
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी, भोपाल (म.प्र.)

विषयः– जिला सर्वेक्षण रिपोर्ट (D.S.R.) प्रस्तुत करने के संबंध में।

संदर्भः– 1–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 5012 / भौमिकी / नं0क0 / 2022 भोपाल, दिनांक 13.04.2022 एवं पत्र क्रमांक 8192 दिनांक 16.06.2022।
2–संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क. / 2022 भोपाल, दिनांक 03.03.2022

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उपरोक्त विषयान्तर्गत संदर्भित पत्रों द्वारा माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021, भारत सरकार पर्यावरण, वन एवं जलवायु मंत्रालय द्वारा जारी अधिसूचना दिनांक 15.01.2016 तथा अधिसूचना दिनांक 25.07.2018 सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माईनिंग 2020 गाइड लाईन के पालन में तहत (रेत खनिज) से भिन्न अन्य गौण खनिज **केशर गिटटी, फर्सीपत्थर, मुरम एवं मिटटी(चिमनीभटटा)** के लिये पृथक–पृथक कुल 04 प्रारूप जिला सर्वेक्षण रिपोर्ट (D.S.R.) का परीक्षण किया गया एवं अनुमोदित किये जाने हेतु अनुशंसा की गई है।

प्रारूप डी.एस.आर. को नियत समयावधि हेतु दिनांक 02.08.2022 से 23.08.2022 (21 दिवस) हेतु मुरैना जिले के पोर्टल (morena.nic.in) पर तथा हार्डकॉपी खनिज कार्यालय मुरैना में आमजन के दावा / आपत्ति एवं सुझाव हेतु रखी गयी, जिसमें दावा / आपत्तियों प्राप्त नहीं हुई है।

संचालक, भौमिकी तथा खनिकर्म, भोपाल के पत्र कमांक / 8192 दिनांक 16.06.2022 द्वारा दिये गये निर्देश अनुसार निर्धारित फार्मेट में अघतन वांछित जानकारी मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (D.S.R.) अग्रिम कार्यवाही हेतु आपकी ओर प्रेषित है।

कलेक्टर
जिला मुरैना (म.प्र.)

संलग्नः–
डी.एस.आर. की प्रतियां
1–केशर गिटटी,
2–फर्सीपत्थर
3–मुरम
4–मिट्टी (चिमनीभट्टा)

पृ0क्रमांक / खनिज / DSR /2022–23 मुरैना,दिनांक

प्रतिलिपिः–

1. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण म.प्र. (SEIAA) की ओर सूचनार्थ प्रेषित ।
2. संचालक, भौमिकी तथा खनिकर्म, 29–ए, अरेरा हिल्स, भोपाल की ओर सूचनार्थ।
3. क्षेत्रीय कार्यालय, संचालनालय भौमिकी तथा खनिकर्म, मोतीमहल ग्वालियर की ओर सूचनार्थ।
4. प्रभारी अधिकारी, एन0आई0सी0, कलेक्ट्रेट, मुरैना (म0प्र0) की ओर सूचनार्थ।
5. जिला खनि अधिकारी, जिला मुरैना की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु।

कलेक्टर
जिला मुरैना (म.प्र.)

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म.प्र.)

कमांक / खनिज / DSR/2022 मुरैना, दिनांक 01/08/2022

जिला सर्वेक्षण रिपोर्ट (प्रारूप) की अनुशंसा हेतु आयोजित बैठक का कार्यवाही विवरण

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माननीय सर्वोच्च न्यायालय द्वारा सिविल अपील क्रमांक 3661–3662 / 2020 (बिहार राज्य एवं अन्य विरुद्ध पवन कुमार एवं अन्य) में पारित आदेश दिनांक 10.11.2021 के अनुसार **सस्टेनेबल सेण्ड माइनिंग मैनेजमेंट गाईडलाईन, 2016 एवं इनफोर्समेंट मानिटरिंग फार सेण्ड माइनिंग 2020** के पालन में संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल के पत्र क्रमांक 2981 / खनिज / विविध / न.क्र. / 2022 भोपाल, दिनांक 03.03.2022 तथा कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना का आदेश क्रमांक / खनिज / DSR / 2022 / 852 मुरैना, दिनांक 22.07.2022 के पालन में तैयार की गई जिला सर्वेक्षण रिपोर्ट (District Survey Report)(प्रारूप) की अनुशंसा हेतु आयोजित बैठक दिनांक 01.08.2022 में निम्नानुसार सदस्य उपस्थित हुये :–

1– अनुविभागीय अधिकारी (राजस्व) मुरैना।
2– खनि अधिकारी, जिला मुरैना
3– कार्यपालन यंत्री, जल संसाधन विभाग, मुरैना।
4– राज्य प्रदूषण नियंत्रण मण्डल के नामांकित अधिकारी।
5– उप वनमण्डलाधिकारी, उप वनमण्डल, मुरैना ।

उपरोक्तानुसार आयोजित बैठक में रेत खनिज से भिन्न अन्य गौण खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के लिये पृथक–पृथक तैयार की गई जिला सर्वेक्षण रिपोर्ट (D.S.R.) के संबंध में चर्चा की गई, जो सही पाई गई। उक्त जिला सर्वेक्षण रिपोर्ट (प्रारूप) पर्यावरण, वन और जलवायु परिवर्तन मंत्राल की अधिसूचना दिनांक 25.07.2018 में विहित प्रावधानों के अनुरूप है। उक्त 04–जिला सर्वेक्षण रिपोर्ट (प्रारूप) खनिज **केशर गिट्टी पत्थर / फर्सीपत्थर / मुरम / मिटटी(चिमनीभट्टा)** के संबंध में अग्रिम कार्यवाही हेतु सर्वसम्मति से अनुशंसा की जाती है।

संलग्न :– डी.एस.आर.की प्रति सॉफ्ट कॉपी, हार्डकॉपी

अनुविभागीय अधिकारी
(राजस्व)
अनुभाग मुरैना (म.प्र.)

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म.प्र.)

उप वनमण्डलाधिकारी
सामान्य वनमण्डल
जिला मुरैना (म.प्र.)

कार्यपालन यंत्री
जल संसाधन विभाग
जिला मुरैना (म.प्र.)

प्रभारी अधिकारी
राज्य प्रदूषण नियंत्रण मण्डल
ग्वालियर (म.प्र.)

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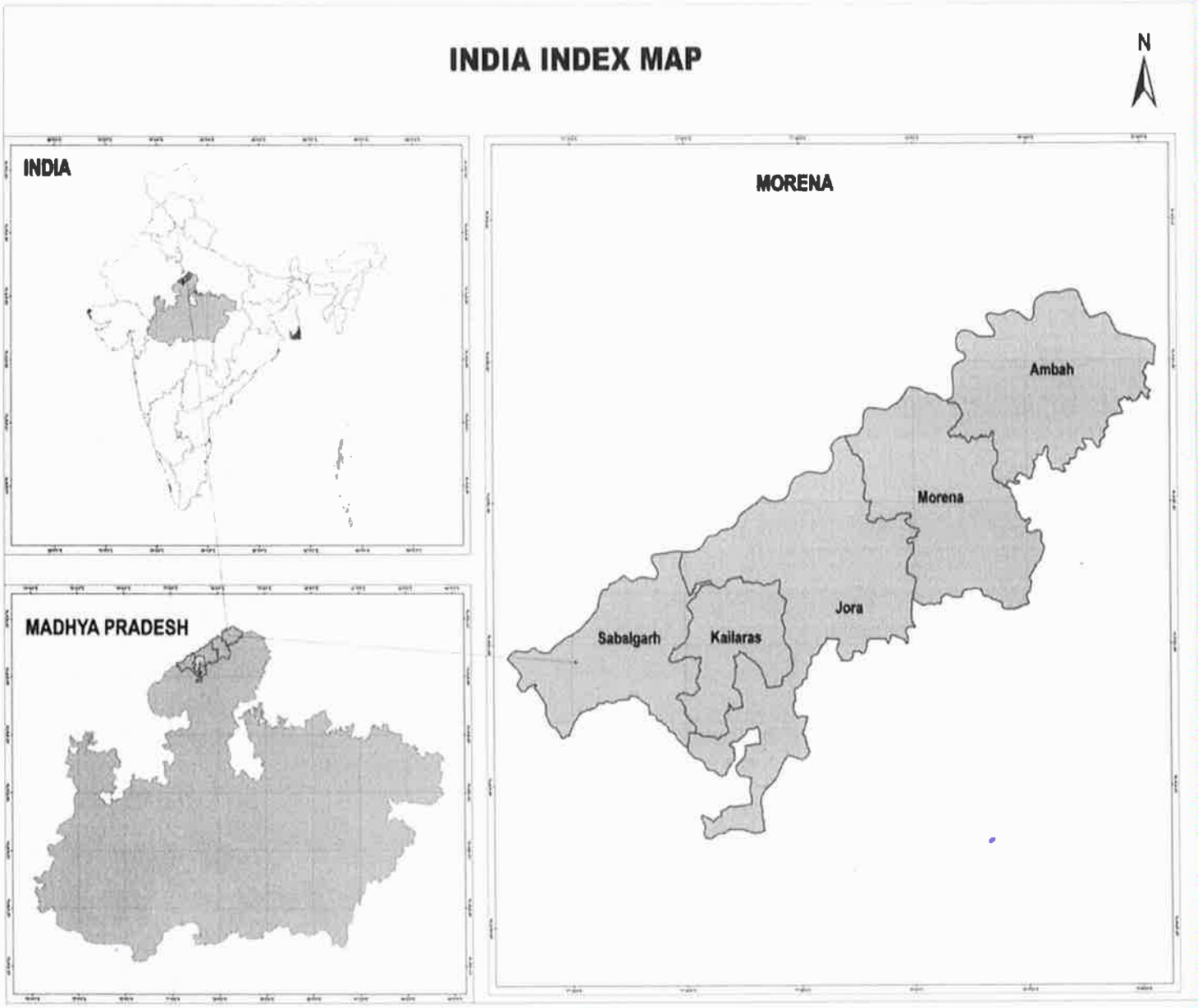
FOR D.S.R. MINOR MINERAL- GITTI

State Level Environment Impact Assessment Authority, M.P. (EPCO) Paryavaran Parisar E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना



State Level Environment Impact Assessment Authority (SEIAA)
Parivesh Bhawan
E-5, Arera Colony

जिला कार्यालय (खनिज शाखा) मुरैना

District Survey Report: Morena

Introduction

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Geographical Information:

Geography & Climate	
Latitude	$76^0 30''$ से $78^0 33''$
Longitude	$25^0 17''$ से $26^0 52''$
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

River/Lake:

The district falls in drainage area of Yamuna system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river: This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river:This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river:The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

Boundaries:

The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest

Climate:

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 47.10 celsius. In cold season the district has freezing cold and temperature drops to 3.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north - western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September, June being the rainiest month.

Approach Road/Rail:

The district headquarters is located on Agra-Mumbai National Highway No.3 and on Central railway lines. Roads are constructed by P.W.D., Forest Department and Rural Development Department in the district which are inter-connected with Tahsils and community development Blocks headquarters as well as with all village panchayats . On the Central rail line of the district Morena , Sank, Nurabad, Bamor, Sikranada, and Hetampur stations are

situated. The Gwalior – Sheopur narrow gauge railway line passes through the district where Bamor, Jaora, Kailaras Ran-Pahadi and Sabalgarh are main stations and on Gwalior to Bhind railway lines there are Shanichara and Rethaura railway stations. The nearest air facility is available at Gwalior.

Physiography:

Morena district is extended in the north 25^0 17' to 26^0 52' latitudes and 76^0 30' to 78^0 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state.

The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

History

As per the local belief, there were sarai(shelter), at place like Morena, Noorabad, Chhoda, Porsa etc. on the highway during the Mughal period. The town was named after the small village of Muraina, located about 8 km. away from the present town. The nearby railway station of Shikarpur and the sarai was also later renamed after the old village. Initially it was called Pench-Morena as it had a number of cotton processing machines.

The district is located on the north-western border of the state in Chambal valley. The present Morena is combined with the Sikarwari and Tanwargarh districts of 19th century. Due to major settlement of Sikarwar Rajputs in Ambah area, this was known as Sikarwari. Similary due to the settlement of Tanwars(Tomars) in Joura area, the central part of the district was called Tanwargarh. The district Sikarwari, the part of former Gwalior state was later on merged into Tanwarghar in 1904 with headquarters of Joura-Alapur which is presently a tahsil headquaters. As per order No 6/10/1923 the pargana headquarters shifted from Nurabad to Morena and vide order No. 492 dated 6/10/1923 the district headquarters was also changed to Morena. In the year 1948 consequent to the formation of Madhya Bharat the Sheopur district of former Gwalior state was included in Madhya Bharat. Later it became a separate district after the reorganisation of Madhya Pradesh.As per Notification No. 1002/F/20-08-92/Sha. 8 M.P. dated 22nd May 1998, Sheopur, Karahal and Vijaypur

tahsils were excluded from Morena district and a new district Sheopur was formed. Morena, Porsa, Ambah, Joura, Kailaras and Sabalgarh tahsil remained in Morena district.

During an excavation in the year 1927-28 in Kutwar village, a huge treasure chest of 18,659 bronze coins was found from which it can be firmly said that during the 3rd and 4th centuries this area was under the rule of Naga Kings. After the Nagas, Guptas, Hoons, Vardhans, Gurjaras, Pratihars, Chandellas and Kachchhapaghatas successfully ruled over this territory. Kirtiraja was the famous king of this dynasty, under whose period the temples of Sihonia were built. After the dynasty of Kachchhapaghatas clans of TomarRajputs etc. ruled over this region till 1526. After the hegemony of Mughals, during the period of the administrative reorganization of the district fell partly within the sarkars of Sheopur and Baroda Mahal, Ajmer suba of Ranthambhor Sarkar, AlapurMahal, Agra Subah of Gwalior Sarkar and Awantgarh and Vijepur Mahal Subah were under the rule of Mandal Sarkar, Remaining areas were included under Gwalior Sarkar.

From the period after invasion of the area by Akbar to last decade of 18th century, this area was part of Mughal. After the eventful battle of Panipat in 1761, Mahadji Sindhia captured Gwalior and by footing into nearby regions and the history of Morena became a part of Gwalior. Due to the services and the policy acceleration by the French commander of the Sindhias army named Jean Baptiste Fillose who trained and administered the army of Sindhia the army power of Mahadji Sindhia became more powerful. After Mahadji Sindhia, Daulat Rao Sindhia established Gwalior as Capital in 1810. In 1853 the Gwalior state was divided into different units under the able guaidance of minister Sir Dinkar Rao during the regime of Jayaji Rao Sindhiya (1843-1886). The state was divided into 3 Prants of Gwalior, Isagarh and Malwa, which were further divided into 19 districts and 62 tahsils. The area of present Morena was divided into 4 districts viz. Sabalgarh, Sheopur, Sikarwari and Tanwarghar.

During the period of the Great Revolt of 1857, Javaji Rao Sindhia decided to remain loyal to British. As and when the Sepoys of Gwalior heard about the fierce fight of the Rani Jhansi they joined the Great Revolt on the night of 14th June 1857. The revolt army reached Kalpi in November 1857 and joined the great revolt under the leadership of Tatya Tope. The situation grew worse in June 1858 when Gwalior was attacked by combined forces of Rani Laxmi Bai of Jhansi, Rao Saheb and Tatya Tope. The Maharaja and his Diwan Dinkar Rao fled to Agra when the leaders of revolt captured Gwalior. On 17th June an appalled battle between Sir Huge Rose and sepoys of the great revolt was fought under the leadership of Rani of Jhansi with combined forces of Naresh (King) of Banda. The nawab of Banda lost one of his arm and in the battle the Rani of Jhansi attained martyrdom. Sir Huge Rose offered his condolence with statement that "Rani of Jhansi was a brave and great general". With achievement of independence of India on 15th August 1947, Gwalior state was included in Union of India and on 28th May 1948 reorganization of states it was included in an unified state of

Madhya Bharat. Morena became separate district, as a result of the reorganization of states of the formation of new Madhya Pradesh on 1st Nov. 1956.

Chambal Sanctuary Notifications

Administrative approval of the Government of India for the establishment of the National Chambal Sanctuary was conveyed in Order No. 17-74/77-FRY (WL) dated 30 September 1978. The Sanctuary has sanctuary status declared under Section 18(1) of the Wildlife Protection Act of 1972. Since such a declaration is carried out by individual states for territory falling within their jurisdiction, there are three separate notifications covering the National Chambal Sanctuary - the Madhya Pradesh portion was gazetted in the Government of Madhya Pradesh Notice No. F.15/5/77-10(2) dated 20 December 1978, the Uttar Pradesh portion was gazetted in the Government of Uttar Pradesh Notice No. 7835/XIV-3-103-78 dated 29 January 1979 and the Rajasthan portion was gazetted in the Government of Rajasthan Notice No.F.11(12)Rev.8/78 dated 7 December 1979.[5]

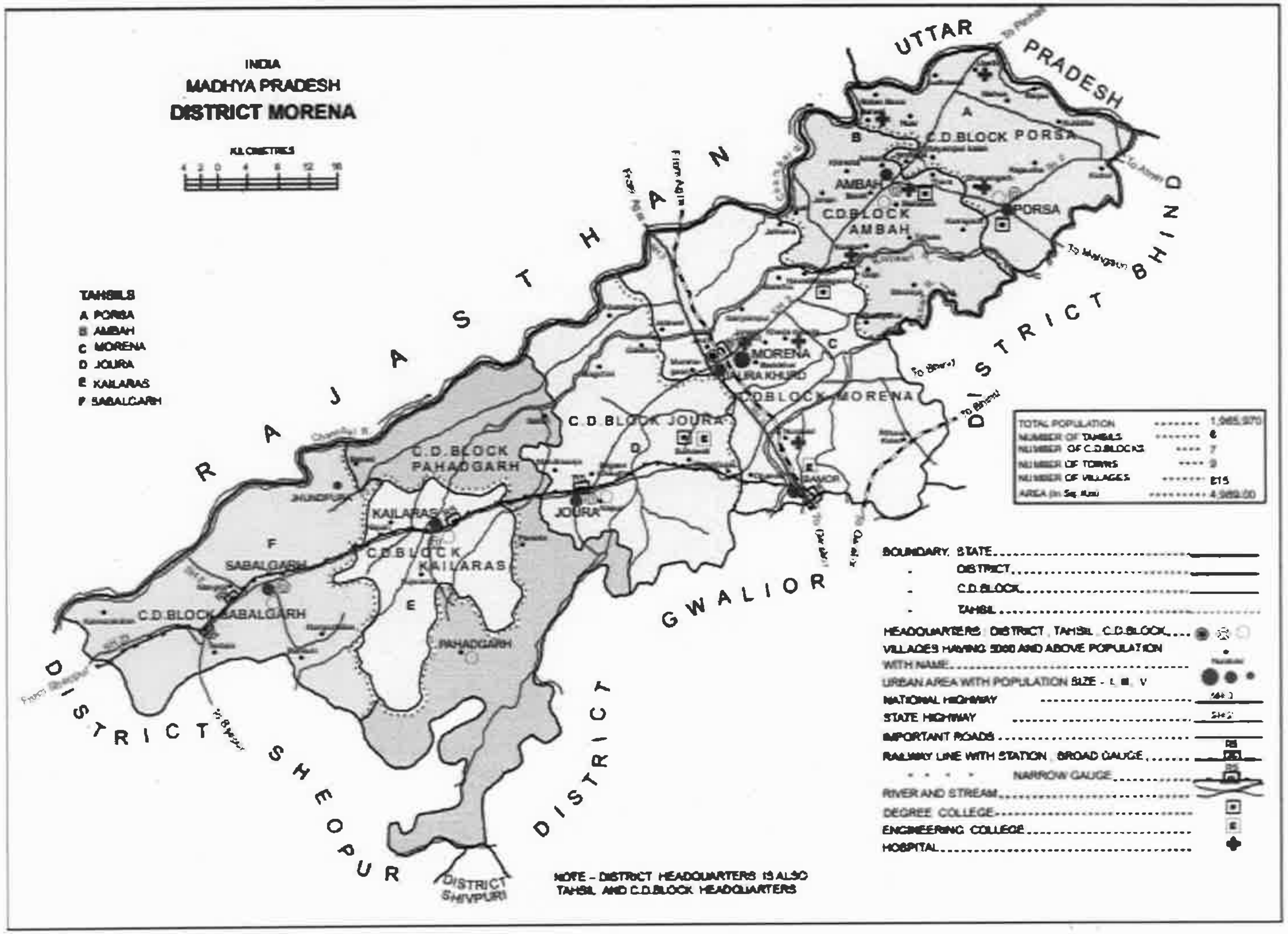
The sanctuary is protected under India's Wildlife Protection Act of 1972. The sanctuary is administered by the Department of Forest under the Project Officer with headquarters at Morena, Madhya Pradesh.

General Features

Administrative Setup of the District

DISTRICT	Tehsil Places
MORENA	AMBAH
	PORSA
	MORENA
	BANMOR
	JOURA
	KAILRAS
	SABALGRAH

Location Map of the District



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List of the Letter of the Intent Holder and Details of the existing Lease in the District

Crusher Gitti Stone Mines

S. N.	Name Of Mineral	Name Of Lessee, Address and Contact No.	Mining Lease Grant Order No. & Date	Village	Survey No./ Area Of Mining Lease Hact.	Period of Mining Lease (Initial)		Period of Mining Lease (1/2 .. renewal)		Date of Commencement of Mining Operation	Status (Working/ Non-Working for dispatch etc.)	Captive/ Non captive	Obtained Environmental Clearance (Yes/No) If Yes latter No. with date of Grant of EC	Location of Mining lease (latitude & Longitude)	Method of Mining Open Cast/ Under ground	Number of tree plantation set up at the mine
1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	16	17
1	केशर गिटटी	श्री लोकेन्द्रसिंह गुर्जर पुत्र श्री रामसिंह गुर्जर नि0 मीरा नगर मुरार, ग्वालियर 9826205000	QL/16/2013-04/07/2016	बडवारी	1539 2.600	16.08.16 से 15.08.26		16.08.16 से 15.08.26		16.08.16	Working	Non captive	YES DEIAA/24/ 2017-18 02/02/2018	26°22'6.66"N 78°15'55.89"E	Open Cast	57
2	केशर गिटटी	श्रीमती बादामी बाई पत्नी श्री तिलक सिंह गुर्जर नि0 ग्राम पिलुआ, मुरैना 7748938265	QL/28/2013-23/06/2016	बडवारी	1536,1537 ,1538 4.000	25.07.16 से 24.07.26		25.07.16 से 24.07.26		25.07.16	Working	Non captive	YES DEIAA/05/20 16 30/05/2016	26°22'1.24"N 78°15'49.85"E	Open Cast	88
3	केशर गिटटी	श्री तिलक सिंह गुर्जर पुत्र श्री पहलवान सिंह गुर्जर नि0 ग्राम पहलवान सिंह का पुरा(पिलुआ), मुरैना 7748938265	15277-78/Khanij/JP/ N.K./02/201-27/07/2017	बडवारी	1523,1534 ,1535 4.000	26.03.18 से 25.03.28		26.03.18 से 25.03.28		26.03.18	Working	Non captive	YES DEIAA/21/ 2017-18 02/02/2018	26°21'54.47"N 78°15'42.59"E	Open Cast	88
4	केशर गिटटी	पीयूष शर्मा पुत्र श्री राजेश शर्मा नि0 मालनपुर तह0 गोहद जिला भिण्ड 9926222802	QL/02/2014-22/06/2016	बडवारी	1523 1.926	16.08.16 से 15.08.2026		16.08.16 से 15.08.2026		16.08.16	Working	Non captive	YES DEIAA/04/20 16 30/05/2016	26°21'49.80"N 78°15'32.44"E	Open Cast	43

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5	केशर गिटटी	श्री गंगासिंह चौहान पुत्र श्री कल्याण सिंह नि0 चौहान क्रेन तानसेन रोड ग्वा0 8720009770	QL/36/2013-04/07/2016	बडवारी	1527 2.000	16.08.16 से 15.08.2026	16.08.16 से 15.08.2026	16.08.16	Working	Non captive	YES DEIAA/20/2016 30/05/2016	26°22'1.68"N 78°15'9.94"E	Open Cast	44
6	केशर गिटटी	श्री वेद प्रकाश गोयल पुत्र श्री विरेन्द्र कुमार गोयल निवासी मनीराम वास, कोसीकला रूरल, मथुरा 6397090990	12271-72/KHANIJ/UP/NK/03/2016-07/06/2017	बडवारी	1530 2.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES 5528/SEIAA/21 06/01/2021	26°22'3.04"N 78°15'24.54"E	Open Cast	44
7	केशर गिटटी	श्री आशीष कटारे पुत्र श्री मुन्नालाल कटारे नि0 45 पंचवटी वस्त्र नगर लश्कर ग्वालियर 7974685272	QL/55/2017-01/03/2018	बडवारी	1528 2.000	04.04.18 से 03.04.28	04.04.18 से 03.04.28	04.04.18	Working	Non captive	YES DEIAA/28/2017-18 02/04/2018	26°22'1.52"N 78°15'18.15"E	Open Cast	44
8	केशर गिटटी	श्री सतीश शर्मा पुत्र श्री विद्याराम शर्मा नि0 ग्राम रिठौराकलां तह0 व जिला मुरेना 9826214540	15283-84/khanij/up/nk/08/2016-27/07/2017	बडवारी	1492,1494 2.000	23.03.18 से 22.03.28	23.03.18 से 22.03.28	23.03.18	Working	Non captive	YES DEIAA/28/2017-18 02/04/2018	26°22'18.71"N 78°15'14.07"E	Open Cast	44
9	केशर गिटटी	मै0 मां वैष्णो देवी पत्थर केशर उघोग प्रो0 श्री वीरेन्द्र डोगरा पुत्र स्वं. श्री जी.आर. डोगरा नि0 1714, शक्ति नगर आगरा 9827278655	QL/34/2017-20/04/2018	बडवारी	1524 2.000	26.06.18 से 25.06.28	26.06.18 से 25.06.28	26.06.18	Working	Non captive	YES DEIAA/03/2018-19 05/10/2018	26°21'49.06"N 78°15'26.61"E	Open Cast	44
10	केशर गिटटी	श्री राहुल कुमार सिंघल पुत्र श्री विष्णु कुमार सिंघल नि0 502, सत्यम रेसीडेंसी टावर, अल्कापुरी ग्वालियर 9827278655	QL/35/17-20/04/2018	बडवारी	1525 2.000	26.06.18 से 25.06.28	26.06.18 से 25.06.28	26.06.18	Working	Non captive	YES DEIAA/02/2018-19 05/10/2018	26°21'54.01"N 78°15'15.67"E	Open Cast	45

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11	केशर गिटटी	मै0 प्रकाश एसफालटिंग्स एण्ड टॉल हाइवे इण्डिया लि0 प्रो0 एन0एस0 बरूआ, इन्दौर 9425321491	QL/03/2015-15/01/2016	मलखा नपुर	125 2.700	25.07.16 से 24.07.2026	25.07.16 से 24.07.2026	25.07.16	Working	Non captive	YES DEIAA/07/ 2017-18 16/06/2017	26°19'28.07"N 78°12'3.87"E	Open Cast	59
12	केशर गिटटी	श्रीमती राखी मावई पत्नी श्री प्रबलप्रताप मावई निवासी साई कृपा, जयनगर कोठी, गणेशपुरा मुरैना 9425180048	QL/21/2015-22/11/2016	मलखा नपुर	124,125 4.000	10.03.17 से 09.03.27	10.03.17 से 09.03.27	10.03.17	Working	Non captive	YES DEIAA/70/20 16 17/10/2016	26°19'34.78"N 78°12'8.12"E	Open Cast	88
13	केशर गिटटी	श्री गिर्राज सिंह परमार पुत्र श्री मुन्नासिंह परमार नि0 पंचवटी कॉलोनी, ए0बी0 रोड बहोडापुर ग्वालियर (म0प्र0) 8878234500	QL/87/2016-06/04/2017	मलखा नपुर	124 1.250	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES 868/DEIAA/ 2016 26/06/2016	26°19'37.50"N 78°12'12.61"E	Open Cast	27
14	केशर गिटटी	मै. प्रिस्टीजियस स्कोर्स प्रा.लि. प्रो0 श्री बुद्धपाल सिंह जादौन नि0 एफ–16 गोविंदपुरी थाटीपुर, ग्वालियर 9425309540	QL/46/2017-09/11/2017	धनेला	2936 4.000	23.03.18 से 22.03.28	23.03.18 से 22.03.28	23.03.18	Working	Non captive	YES DEIAA/25/ 2017-18 02/02/2018	26°23'22.86"N 78° 2'11.49"E	Open Cast	88
15	केशर गिटटी	मै0 तेहरिया टेक्नोलॉजी संचा0 पुनीत शर्मा नि0 रामबाग कॉलोनी, 5वी बटालियन रोड,संजय कॉलोनी के पास मुरैना 8982592849	QL/09/2015-04/11/2016	धनेला	2940, 2941 4.480	06.12.16 से 05.12.26	06.12.16 से 05.12.26	06.12.16	Working	Non captive	YES DEIAA/69/20 16 17/10/2016	26°23'23.69"N 78° 2'19.61"E	Open Cast	98

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16	केशर गिटटी	श्री हाकिम सिंह शर्मा पुत्र श्री रामचरन लाल शर्मा नि0 420/ए, सुरेश नगर, ठाटीपुर, ग्वालियर (म0प्र0) 9784596051	QL/68/2016-04/08/2016	उरहाना	1251 2.500	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/60/2016 01/08/2016	26°19'57.41"N 78°12'19.58"E	Open Cast	55
17	केशर गिटटी	श्री रविन्द्र सिंह पुत्र श्री राजकुमार सिंह पटेल नि0 ग्राम चकरायपुर तह0 व जिला ग्वालियर 6267521683	QL/80/2016-02/05/2017	उरहाना	1261 4.000	02.06.17 से 01.06.27	02.06.17 से 01.06.27	02.06.17 से 01.06.27	Working	Non captive	YES DEIAA/77/2016 24/03/2017	26°19'46.48"N 78°12'12.78"E	Open Cast	88
18	केशर गिटटी	श्री बृजेन्द्र सिंह पुत्र श्री गोपाल सिंह नि0 रेशममिल प्रगति नगर, ग्वालियर 8839702752	QL/63/2016-04/08/2016	उरहाना	1244 2.500	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/56/2016 01/08/2016	26°20'14.60"N 78°12'30.30"E	Open Cast	55
19	केशर गिटटी	श्री मोहित शर्मा पुत्र श्री बालकिशन शर्मा नि0 एच.43, निखिल बदबूल फेस नं0 2 होशंगाबाद रोड, भोपाल 9131024578	QL/65/2016-04/08/2016	उरहाना	1244 4.000	12.09.2016 से 11.09.26	12.09.2016 से 11.09.26	12.09. 2016	Working	Non captive	YES DEIAA/61/2016 01/08/2016	26°20'19.94"N 78°12'22.35"E	Open Cast	88
20	केशर गिटटी	श्री ललित पाठक पुत्र श्री दर्शन पाठक नि0 228,प्रगति भवन, कोटेश्वर कॉलोनी, ग्वालियर म0प्र0 9131024578	QL/66/2016-04/08/2016	उरहाना	1244 2.500	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/57/2016 01/08/2016	26°20'20.30"N 78°12'28.86"E	Open Cast	55

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21	केशर गिटटी	श्री संजीव शर्मा पुत्र श्री रतीराम शर्मा नि0 श्रीजी नगर, टोंक रोड, जयपुर राज0 हाल मु. डी/2/001, विल्डसर हिल्स, न्यू सिटी सेंटर, सिरोल ग्वालियर 9784596051	QL/67/2016-04/08/2016	उरहाना	1244 4.000	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/55/2016 01/08/2016	26°20'22.16"N 78°12'14.18"E	Open Cast	88
22	केशर गिटटी	श्री दिनेश सिंह चौहान पुत्र श्री आर.एस. चौहान नि0–245,न्यू कॉलोनी बिरलानगर, ग्वालियर 8878234500	QL/69/2016-04/08/2016	उरहाना	1251 2.500	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/59/2016 01/08/2016	26°20'1.08"N 78°12'19.95"E	Open Cast	55
23	केशर गिटटी	श्री सतेन्द्र सिंह सिकरवार पुत्र श्री डिप्टी सिंह सिकरवार नि0 गोपालभगत गली, मुरैना 9926664653	QL/89/2016-31/03/2018	उरहाना	1261 2.000	26.06.18 से 25.06.28	26.06.18 से 25.06.28	26.06.18	Working	Non captive	YES DEIAA/01/2018-19 05/10/2018	26°19'52.24"N 78°12'2.87"E	Open Cast	44
24	केशर गिटटी	श्री अशोक शर्मा पुत्र श्री एन.एल. शर्मा नि.कोटेसाहब का बाग,सब्द प्रताप आश्रम, ग्वा. 9131024578	QL/64/2016-04/08/2016	उरहाना	1251 2.500	12.09.16 से 11.09.26	12.09.16 से 11.09.26	12.09.16	Working	Non captive	YES DEIAA/58/2016 01/08/2016	26°20'3.56"N 78°12'20.47"E	Open Cast	55
25	केशर गिटटी	श्री राहुल हर्षाना पुत्र श्री हमीर सिंह हर्षाना नि0 ग्राम नाका, मुरैना 9753145420	4863-67/UTKHANIPATTA /GROUP-11/-30/03/2017	खेरिया चुन्हेटी	01 4.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/04/2017-18 16/06/2017	26°19'28.42"N 78°12'13.42"E	Open Cast	88
26	केशर गिटटी	श्री दुष्यंत मिश्रा पुत्र श्री रविन्द्र मिश्रा नि0 102, संगम अपार्टमेंट, तानसेन नगर ग्वा. 8770549918	16581-85/UP/GROUP-II/NK/01/17-26/08/2017	खेरिया चुन्हेटी	01 1.750	23.03.18 से 22.03.28	23.03.18 से 22.03.28	23.03.18	Working	Non captive	YES DEIAA/23/2017-18 02/02/2018	26°19'33.66"N 78°12'15.95"E	Open Cast	39

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27	केशर गिटटी	श्री रविन्द्र सिंह यादव पुत्र श्री भीकम सिंह यादव निवासी ग्राम निरावली तह.मुरैना 9826598924	QL/37/2017-24/11/2017	जैतपुर नूराबाद	310 2.500	23.03.18 से 22.03.28	23.03.18 से 22.03.28	23.03.18	Working	Non captive	YES DEIAA/18/ 2017-18 02/02/2018	26°20'15.79"N 78° 5'14.73"E	Open Cast	55
28	केशर गिटटी	श्री मनोज सिंह कुशवाह पुत्र श्री वाई0एस0 कुषवाह नि0 27,बी. हरीओम कॉलोनी, मुरार,ग्वा0 9893306501	8901-902/KHANIJ/ U.P./N.K./07/ 2-05/05/2017	महटोली	54,55, 61,62 3.878	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Non-Working	Non captive	YES DEIAA/06/ 2017-18 16/06/2017	26°22'38.04"N 78° 7'27.20"E	Open Cast	87
29	केशर गिटटी	श्री राकेश हर्षाना पुत्र श्री पंजाब सिंह हर्षाना नि0 कुतवार तह. व जिला मुरैना 9425126528	3251-52/KHANIJ/ U.P./N.K./01/ 20-09/03/2022	कुतवार	1029,1030 1031,1032 23.790	05.9.2011 से 04.9.21	05.9.2011 से 04.9.21	05.9.2011	Non-Working	Non captive	YES 138/EPCO-SEIAA/10 26/05/2010	26°29'03.3"N 78°08'28.3"E	Open Cast	523
30	केशर गिटटी	श्रीमती संगीता अग्निहोत्री पत्नी श्री राजवीर अग्निहोत्री निवासी 124, वीना स्कूल के पास, ग्राम जौरी पोस्ट जौराखुर्द, मुरैना 9425162200	QL/03/2021/1101-03/09/2021	धनेला	3009, 3010 1.412	28.12.2021 से 27.12.2031	28.12.2021 से 27.12.2031	28.12. 2021	Non-Working	Non captive	YES SIA/MP/MIN/ 246479/2021 EC22B001MP 166447 9006/2022 20/03/2022	26°23'27.21"N 78° 2'29.56"E	Open Cast	33
31	केशर गिटटी	श्री विनय जैन पुत्र श्री पदम चन्द जैन नि0 303, बद्री विशाल प्लाजा रोड हाई कोर्टलेन गिर्द ग्वालियर (म0प्र0) 9893359596	QL/53/2021-03/08/2021	उरहाना	1244 2.000	26.08.2021 से 25.08. 2031	26.08.2021 से 25.08. 2031	26.08. 2021	Non-Working	Non captive	YES SIA/MP/MIN/ 268722/2022 EC22B001MP 161470 9131/2022 18/06/2022	26°20'15.62"N 78°12'18.87"E	Open Cast	44
32	केशर गिटटी	श्री सुरेन्द्र सिंह गुर्जर पुत्र स्व0 श्री अनिरुद्ध सिंह गुर्जर नि0 ग्राम रूअरमैना बसई तह0 जौरा जिला मुरैना 9826974605	QL/90/2016-19/06/2017	छडेह	1117 2.000	23.03.08 से 22.03.18	23.03.18 से 22.03.28	23.03.08	Working	Non captive	YES DEIAA/16/ 2017-18 02/02/2018	26°18'1.35"N 77°47'38.37"E	Open Cast	41

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33	केशर गिटटी	श्री रामविलास गुर्जर पुत्र श्री रामस्वरूप गुर्जर निवासी ग्राम छडेह तह0 जौरा जिला मुरैना 6260268515 8959730052	QL/83/2016-16/06/2017	मजरा	630 1.500	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/01/2017-18 16/06/2017	26°18'15.3"N 77°47'45.1"E	Open Cast	33
34	केशर गिटटी	श्री मनोज कुमार शर्मा पुत्र श्री रामदयाल शर्मा नि0 ग्राम मंजीतपुरा पोस्ट मोहनपुर तह0 जौरा जिला मुरैना 7974611379	QL/60/2016-22/10/2016	मजरा	444 2.000	21.02.17 से 20.02.27	21.02.17 से 20.02.27	21.02.17	Working	Non captive	YES DEIAA/71/2016 17/10/2016	26°18'41.59"N 77°47'50.26"E	Open Cast	44
35	केशर गिटटी	श्रीमती संध्या सिकरवार पत्नी श्री रणवीर सिंह सिकरवार नि. बजरंग गली, नैनागढ रोड, मुरैना 7509285976	QL/01/2016-16/05/2017	परसौटा	3016, 3022 2.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/02/2017-18 16/06/2017	26°17'28.96"N 77°44'39.20"E	Open Cast	43
36	केशर गिटटी	श्री शैलेन्द्र सिंह तोमर पुत्र श्री वीरेन्द्र सिंह तोमर निवासी तूलिका कान्वेंट स्कूल के पास, पुरानी हाउसिंग बोर्ड कॉलोनी, मुरैना 9425164912	QL/95/2016-16/06/2017	काशीपुर	521 1.500	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/08/2017-18 16/06/2017	26°18'34.44"N 77°48'4.88"E	Open Cast	33
37	केशर गिटटी	धर्मेन्द्र शर्मा पुत्र श्री खचेरीलाल शर्मा निवासी बजरंग गली इस्लामपुरा जौरा तह. जौरा जिला मुरैना 9926747466 9752797843	QL/31/11-30/11/2011	नरहेला	2052 1.500	27.01.12 से 26.01.2022	27.01.12 से 26.01.2022	27.01.12	Non-Working	Non captive	YES DEIAA/27/2016 30/05/2016	26°19'36.98"N 77°49'23.08"E	Open Cast	35

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38	केशर गिटटी	श्री जितेन्द्र सिंह सिकरवार पुत्र श्री सुजान सिंह सिकरवार निवासी पगारा रोड काली माता मंदिर के पीछे, जौरा तह0 जौरा जिला मुरैना 9131046360	QL/77/2016-31/03/2017	बुरावली	523/3, 524 2.000	07.04.17 से 06.04.27	07.04.17 से 06.04.27	07.04.17	Working	Non captive	YES DEIAA/82/2016-17 24/03/2017	26°18'59.0"N 77°47'54.9"E	Open Cast	44
39	केशर गिटटी	श्री बनवारी लाल गुर्जर पुत्र श्री गेंदालाल गुर्जर नि0 ग्राम काशीपुर जौरा तह0 जौरा जिला मुरैना 8815382516 8223974725	321-22/KHANIJ/U.P./N.K./05/201-06/01/2017	बुरावली	187/1, 188 2.111	10.04.17 से 09.04.2027	10.04.17 से 09.04.2027	10.04.17	Working	Non captive	YES DEIAA/75/2016 24/03/2017	26°18'55.3"N 77°47'44.7"E	Open Cast	47
40	केशर गिटटी	श्री वीरेन्द्र सिंह यादव पुत्र श्री गजराज सिंह यादव नि0 ग्राम जींगनी, तह0 व जिला मुरैना 9425794270	324-25/KHANIJ/U.P./N.K./09/12-06/01/2017	नूरपुर	189 4.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/74/2016 24/03/2017	26°22'19.1"N 77°53'23.1"E	Open Cast	88
41	केशर गिटटी	भीमसेन गोले पुत्र श्री रामस्वरूप गोले नि0 गणेशपुरा मुरैना 9425456292	QL/48/2018-28/11/2020	निटहरा	443 2.850	31.12.20 से 30.12.30	31.12.20 से 30.12.30	31.12.20	Working	Non captive	YES 2960/SEIAA/2019 02/11/2019	26°24'26.0"N 77°56'52.0"E	Open Cast	63
42	केशर गिटटी	श्री रामस्वरूप गुर्जर पुत्र श्री ग्यासीराम गुर्जर निवासी ग्राम छडेह तह. जौरा जिला मुरैना 9826974605	QL/03/2020-17/03/2021	छडेह	1078 2.000	29.4.2011 से 28.4.21	29.4.2021 से 28.4.2031	29.4.2011	Working	Non captive	YES DEIAA/15/2016 30/05/2016	26°17'56.54"N 77°47'26.72"E	Open Cast	44

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43	केशर गिटटी	श्री दिनेश सिह गुर्जर पुत्र श्री रामस्वरूप गुर्जर निवासी ग्राम छडेह तह. जौरा, मुरैना 9826974605 9346797522	QL/01/2021/420-17/03/2021	मजरा	446 2.300	29.6.2021 से 28.6.31	29.6.2021 से 28.6.31	29.6.2021	Non-Working	Non captive	YES SIA/MP/MIN/231806/2021 EC22B001MP110617 8808/2021 16/01/2022	26°18'33.92"N 77°47'52.711"E	Open Cast	49
44	केशर गिटटी	श्रीमती सपना सिकरवार पत्नी स्वं. श्री भानू प्रताप सिकरवार निवासी सिंधी कॉलोनी, लश्कर ग्वालियर 6263076905	F-4-1/2004/12/1-24/12/2010	मजरा	445 4.000	17.02.2011 से 16.02.21	17.02.2021 से 16.02.31	17.02. 2011	Non-Working	Non captive	YES DEIAA/16/2016 30/05/2016	26°18'43.41"N 77°47'53.75"E	Open Cast	88
45	केशर गिटटी	श्री सुभाष धाकड पुत्र श्री नरेश धाकड नि0 बार्ड क0 02,एम0एस0 रोड जौरा ब्लॉक के सामने तहसील जौरा जिला मुरैना 9300411171	QL/04/2021/1165-21/09/2021	परसौटा	3016, 3022 3.000	08.11.2021 से 07.11.31	08.11.2021 से 07.11.31	08.11. 2021	Working	Non captive	YES 8747/2021 20/03/2022	26°17'23.0"N 77°44'40.7"E	Open Cast	66
46	केशर गिटटी	श्री नरेश धाकड पुत्र श्री गिरवर लाल धाकड नि0 145,एम0एस0 रोड, ब्लॉक ऑफिस के सामने , वार्ड नं0 02तहसील जौरा जिला मुरैना 9300411171	QL/05/2021-21/09/2021	परसौटा	3037 2.000	08.11.2021 से 07.11.31	08.11.2021 से 07.11.31	08.11. 2021	Working	Non captive	YES 8748/2021 24/03/2022	26°17'25.4"N 77°44'59.1"E	Open Cast	44
47	केशर गिटटी	श्रीमती मीरा आदिवासी पत्नी श्री रामहेत आदिवासी नि0 ग्राम कटीला का पुरा, कैलारस जिला मुरैना 8839492400	4818-19/KHANIJ/UTKHANIPATTA/N - 28/03/2017	किसरोली	857 2.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/03/2017-18 16/06/2017	26°13'57.5"N 77°39'46.7"E	Open Cast	44

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48	केशर गिटटी	श्री विजय सिंह धाकड पुत्र श्री कुडेरी सिंह धाकड निवासी धाकड पैट्रोल पंप के पीछे, नई बस्ती डोगरपुर तह0 कैलारस, मुरैना 9644622437	QL/96/2016-16/06/2017	अरांहट	301 2.000	23.06.17 से 22.06.27	23.06.17 से 22.06.27	23.06.17	Working	Non captive	YES DEIAA/12/ 2017-18 16/06/2017	26°13'13.33"N 77°39'53.25"E	Open Cast	44
49	केशर गिटटी	श्रीमती चंद्रा यादव पत्नी श्री महावीर यादव निवासी गोपालपुरा मुरैना 9301558999 8770115450	QL/108/2016-14/09/2017	फुलोदा	333,351 2.000	02.11.17 से 01.11.27	02.11.17 से 01.11.27	02.11.17	Working	Non captive	YES DEIAA/19/ 2017-18 02/02/2018	26°15'33.9"N 77°42'15.0"E	Open Cast	44
50	केशर गिटटी	श्री अशोक सिंह यादव पुत्र श्री हाकिम सिंह यादव नि0 ग्राम किरावली मानगढ तहसील कैलारस जिला मुरैना 8770915554 9907406565	13611/ KHANIJ/ U P/N.K / 03/2018-23/08/2018	किसरोली	863 2.500	24.09.08 से 23.09.18	24.09.18 से 23.09.28	24.09.08	Working	Non captive	YES 1989/SEIAA/ 2020 05/08/2020	26°14'11.36"N 77°40'02.53"E	Open Cast	55
51	केशर गिटटी	श्री दारा सिंह धाकड पुत्र श्री सियाराम धाकड नि0 ग्राम सगौरिया तह0 कैलारस, मुरैना 8518852157	21210-211/UTKHANIPATTA GROUP 8-22/11/2014	सगौरिया	1396 4.000	16.12.14 से 15.12.24	16.12.14 से 15.12.24	16.12.14	Non-Working	Non captive	YES 9941/SEIAA/ 1529/12/201 5	26°11'18.8"N 77°36'53.6"E	Open Cast	88
52	केशर गिटटी	श्री संदीप धाकड पुत्र श्री श्यामलाल धाकड निवासी ग्राम किसरोली तहसील कैलारस जिला मुरैना 8103977147	QL/04/2009-12/04/2010	किसरोली	735 4.000	01.05.2010 से 30.04.20	01.05.2020 से 30.04.30	01.05.10	Working	Non captive	YES DEIAA/51/ 2016 01/08/2016	26°14'10.90"N 77°39'42.77"E	Open Cast	92

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53	केशर गिटटी	श्री रामदास शर्मा पुत्र श्री मुरारीलाल शर्मा नि0 ग्राम मांगरौल तह0 सबलगढ,मुरैना 8965901800	QL/46/2014-04/07/2016	मांगरौल	2563 2.000	23.11.16 से 22.11.26	23.11.16 से 22.11.26	23.11.16	Working	Non captive	YES DEIAA/01/2016 30/05/2016	26°13'52.07"N 77°22'27.15"E	Open Cast	44
54	केशर गिटटी	श्रीमती सुनीता पत्नी श्री राजकुमार गौड निवासी ग्राम बकसपुर तह0 सबलगढ जिला मुरैना म0प्र0 9826416728	QL/20/2015-29/08/2016	बकसपुर	553 1.000	28.11.16 से 27.11.26	28.11.16 से 27.11.26	28.11.16	Working	Non captive	YES DEIAA/50/2016 01/08/2016	26°14'49.2"N 77°28'48.1"E	Open Cast	22
55	केशर गिटटी	श्री अवधेश कुमार तिवारी पुत्र श्री गोविंद नारायण तिवारी नि0 शिक्षक कॉलोनी, राजीव गांधी, बार्ड कं0 24 तह0 डबरा जिला ग्वालियर 9977844014	16520-21/KHANIJ/UP/NK/02/16-26/08/2017	खिरका	306 1.000	14.08.18 से 13.08.28	14.08.18 से 13.08.28	14.08.18	Working	Non captive	YES DEIAA/04/2018-19 05/10/2018	26°10'46.6"N 77°16'52.2"E	Open Cast	22
56	केशर गिटटी	श्री लक्ष्मण सिंह सिकरवार पुत्र श्री प्रेमसिंह सिकरवार नि0 पिपरघान रोड, सबलगढ, मुरैना 9630721282	8604-605/KHANIJ/UP/NK/01/2018-21/05/2018	सबलगढ	1005 4.000	31.05.07 से 30.05.17	31.05.17 से 30.05.2027	31.05.07	Working	Non captive	YES DEIAA/04/2018-19 05/10/2018	26°14'20.52"N 77°25'12.16"E	Open Cast	89
57	केशर गिटटी	श्री पंकज कुमार शर्मा पुत्र श्री शिवदयाल शर्मा निवासी एम0एस0 नगरपालिका के पास, कैलारस जिला मुरैना 8878796450 9111545511	QL/84/17-14/09/2018	तिंदौली	626 2.000	12.11.10 से 11.11.20	12.11.20 से 11.11.30	12.11.20	Working	Non captive	YES DEIAA/11/2016 30/05/2016	26°14'6.49"N 77°23'3.47"E	Open Cast	44

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58	केशर गिटटी	श्री धारा सिंह रावत पुत्र श्री अमृतलाल रावत नि0 ग्राम खनपुरा पोस्ट मांगरौल तहसील सबलगढ.मुरैना 9827917151	QL/36/2018-16/12/2020	तिंदौली	633 2.000	29.12.20 से 28.12.30	29.12.20 से 28.12.30	29.12.20	Working	Non captive	YES 6663/SEIAA 18/02/2021	26°14'5.52"N 77°23'40.07"E	Open Cast	45
59	केशर गिटटी	श्री पवन कुमार शर्मा पुत्र श्री केदारनाथ शर्मा निवासी बी. 13, पुरूषोत्तम विहार कॉलोनी, गोले का मंदिर, भिण्ड मार्ग ग्वालियर 9926486725	QL/51/2021-02/08/2021	बकसपुर	552 4.000	25.08.2021 से 24.08.31	25.08.2021 से 24.08.31	25.08. 2021	Non-Working	Non captive	YES SIA/MP/MIN/ 228621/202 1 EC21B001MP 197264 8695/2021 19/12/2021	26°14'49.52"N 77°28'44.07"E	Open Cast	88
60	केशर गिटटी	श्री त्रिलोक सिंह पुत्र श्री लाखन सिंह निवासी महाराणा प्रताप नगर, गोले का मंदिर, गिर्द ग्वालियर (म0प्र0) 9881558729	QL/50/2021-02/08/2021	सबलगढ	1005 4.000	25.08.2021 से 24.08.31	25.08.2021 से 24.08.31	25.08. 2021	Non-Working	Non captive	YES 2636/SEIAA/ 2021-19/12/2021	26°14'23.08"N 77°25'25.12"E	Open Cast	89
61	केशर गिटटी	श्री कोक सिंह पुत्र श्री बाबू लाल कुशवाह निवासी शिवलालपुरा गली सबलगढ, तहसील सबलगढ जिला मुरैना (म0प्र0) 7566459059	QL/36/2021-02/08/2021	तिन्दौली	632 1.000	24.08.2021 से 23.08.31	24.08.2021 से 23.08.31	24.08. 2021	Non-Working	Non captive	YES SIA/MP/MIN/ 224028/202 1 EC22B001MP 161855 8692/2021 17/01/2022	26°14'22.02"N 77°23'49.18"E	Open Cast	23
62	केशर गिटटी	श्री रामू शर्मा पुत्र श्री रामवीर शर्मा नि0 होटल राजपैलेस ए0बी0रोड मुरैना, जिला मुरैना 9425126322	QL/34/2018/599-09/05/2022 (सैद्धांतिक सहमति)	किसरोली	857 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	3808/SEIAA/ 20-14/10/2020	26°13'55.7"N 77°39'55.0"E	Open Cast	41

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63	केशर गिटटी	रविन्द्र सिंह पटेल पुत्र राजकुमार सिंह नि0 कोठी नं0 01, आदर्श नगर, पिन्टो पार्क, ग्वालियर 7697908804	QL/24/2021/1490-03/12/2021	डमेजर	468 3.190	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	YES SIA/MP/MIN/265187/2022 EC22B001MP110948 9124/2022 26/05/2022	26°15'31.82"N 77°42'31.25"E	Open Cast	69
64	केशर गिटटी	श्री कपूर सिंह गुर्जर पुत्र श्री हाकिम सिंह गुर्जर नि0 नैनागढ रोड, छात्रावास के पीछे, सिद्धनगर मुरैना 9630452874 9893228107	QL/39/2018/106-02/02/2021	घनेला	3000, 3001, 3002, 3190 3.250	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	71
65	केशर गिटटी	श्री राजीव कुमार शर्मा पुत्र श्री मातादीन शर्मा नि0 118 ग्रीन पार्क , गुलमोहर सिटी ग्वालियर 9425705057 7974805462	QL/51/2021/423-17/03/2021	मजरा	702 2.000	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	44
66	केशर गिटटी	बलवीरी पत्नी श्री विकम सिंह नि0 30 कनकटपुरा करौला, गोंबरा, बामोर जिला मुरैना 8223974725	QL/64/2021/1457-2911/2021	मजरा	438, 439 3.000	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	66
67	केशर गिटटी	खदान उघोग सहकारी संस्था मर्यादित मुरैना अध्यक्ष श्री हमीर सिंह पटेल पता–जीवाजीगंज मुरैना 9753145420	QL/71/2021/1102-03/09/2021	खेरिया चुन्हेटी	1 2.500	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	23

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68	केशर गिटटी	रविन्द्र स्टोन इण्डस्ट्रीज प्रा0 श्री रविन्द्र सिंह यादव नि0 जगनपुरा नं0 2 धासमंडी, ग्वालियर 9229308671	QL/85/2021/1366 - 08/11/2021 (सैद्धांतिक सहमति)	उरहाना	1251 2.300	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	51
69	केशर गिटटी	श्रीमती शकुन्तला राजे पत्नी श्री जयदेव सिंह गुर्जर नि0 दिलीप सिंह का पुरा, बिरखडी तहसील गोहद जिला भिण्ड 9753145420	QL/15/2021/958-02/08/2021	उरहाना	1244 2.000	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	46
70	केशर गिटटी	श्री राधारानी स्टोन केशर पता ज्ञान गगा बिल्डंग नदी गेट जयेन्द्रगंज ग्वालियर 9826232805	QL/152/21/402-04/04/2022 (सैद्धांतिक सहमति)	मलखान पुरा	125 2.500	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	55
71	केशर गिटटी	श्री मुनेन्द्र सिंह पुत्र श्री राजाभैया नि0 मीरानगर मुरार, गिर्द ग्वालियर 7987837671	QL/122/21/467-27/04/2022 (सैद्धांतिक सहमति)	बडवारी	1520, 1521 4.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	87
72	केशर गिटटी	श्री हरवेन्द्र सिंह गुर्जर पुत्र श्री महेन्द्र सिंह गुर्जर नि0 श्रीराम नगर भदौरिया मार्केट थाटीपुर ग्वालियर 7987837671	QL/123/21/468-27/04/2022 (सैद्धांतिक सहमति)	बडवारी	1520, 1521 2.620	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	57
73	केशर गिटटी	श्री मनोज अग्रवाल पुत्र श्री सियाराम अग्रवाल नि0 काली माता मंदिर के पास, नैनागढ रोड, मुरैना 9425126139	QL/62/21/66-09/05/2022 (सैद्धांतिक सहमति)	धनेला	2941 3.176	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	69

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74	केशर गिटटी	श्री प्रदीप शर्मा पुत्र श्री छत्रपाल शर्मा नि0 फ्लेट नं0 02, हाउस नं. 55, विनायक रेसीडेंसी सत कृपाल आश्रम के पास, विनय नगर सेक्टर नं. 3 गिर्द ग्वालियर	(सैद्धांतिक सहमति)	घनेला	2767 3.200	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	69
75	केशर गिटटी	श्री पियूष शर्मा पुत्र श्री राजेश शर्मा नि0 ग्राम मालनपुर तहसील गोहद जिला भिण्ड 9926222802	QL/16/22/652 -26/05/2022 (सैद्धांतिक सहमति)	बडवारी	1523 3.500	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	77
76	केशर गिटटी	श्री नरेश धाकड पुत्र श्री गिरवर लाल धाकड निवासी ग्राम परसौटा, तहसील जौरा जिला मुरैना 930041171	QL/01/2020- 17/12/2021 (सैद्धांतिक सहमति)	परसौटा	3016, 3022 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	42
77	केशर गिटटी	श्री मलखान सिह पुत्र श्री लक्ष्मण सिंह नि0 ग्राम काशीपुर, पोस्ट नरहेला तहसील जौरा जिला मुरैना 8815382516 8223974725	QL/50/2017- 06/01/2021 (सैद्धांतिक सहमति)	काशीपुर	522 2.170	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	47
78	केशर गिटटी	श्रीमती सुनीता पत्नी श्री विश्राम रावत नि0 ग्राम डमेजर तहसील कैलारस जिला मुरैना 8966083378	QL/110/21- 19/05/2022 (सैद्धांतिक सहमति)	टिकटोली दूमदार	11, 1302 मिन–2, 1303, 1308 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	44

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79	केशर गिटटी	श्री केशव सिंह पुत्र श्री आदिराम कुशवाह निवासी खलीपा कॉलोनी, ठाटीपुर ग्वालियर (म0प्र0) 6267521683	QL/23/2021-17/01/2022 (सैद्धांतिक सहमति)	डमेजर	468 3.220	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	71
80	केशर गिटटी	कौशलेन्द्र सिंह कौरव पुत्र श्री रंगलाल सिंह कौरव नि0 आसमानी मातामंदिर सिद्धेश्वर नगर, मुरार ग्वालियर 9425164912	QL/49/2021/I 116-09/09/2021	फुलौंदा	353 4.000	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	88
81	केशर गिटटी	चंद्रपकाश सिंह पुत्र श्री महेन्द्र सिंह नि0 ग्राम चीनोर पोस्ट चीनोर जिला ग्वालियर 9993261792	QL/55/21/345-17/03/2022 (सैद्धांतिक सहमति)	किसरोली	1173 2.500	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	55
82	केशर गिटटी	गजेन्द्र सिंह पवैया पुत्र श्री बलवंत सिंह पवैया नि0 ग्राम व पोस्ट चीनोर जिलाा ग्वालियर 8814279841 9993261792	QL/56/2021/346-17/03/2022 (सैद्धांतिक सहमति)	किसरोली	1173 3.500	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	77
83	केशर गिटटी	रामाश्रय पवैया पुत्र श्री गजेन्द्र सिंह पवैया नि0 ग्रम व पोस्ट चीनोर जिला ग्वालियर 9993261792	QL/57/2021/347-17/03/2022 (सैद्धांतिक सहमति)	किसरोली	863 4.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	92

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84	केशर गिटटी	सतेन्द्र सिह भदौरिया पुत्र श्री जगदीश सिंह भदौरिया नि0 इन्द्रानगर चार शहर का नाका, ग्वालियर 9993261792	QL/83/2021/348-17/03/2022 (सैद्धांतिक सहमति)	किसरोली	863 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	43
85	केशर गिटटी	चौधरी अनिल शर्मा पुत्र श्री लक्ष्मीनारायण शर्मा नि0 फौजी कॉलोनी, नदरिया की माता, गुडा गुडी का नाका कंपू गिर्द ग्वालियर	QL/107/2021/1401-12/11/2021 (सैद्धांतिक सहमति)	किसरोली	863 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	46
86	केशर गिटटी	श्रीमती तुलिका पत्नी श्री देशराज सिंह सिकरवार नि0 रविदास नगर, चंबल कॉलोनी के पीछे, मुरैना 9425164912	सैद्धांतिक सहमति जारी	फुलौदा	354 1.889	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	41
87	केशर गिटटी	सोवरन सिंह तोमर पुत्र श्री फूलसिंह तोमर नि0 ग्राम बुधारा तहसील पोरसा जिला मुरैना	7932/KHANIJ/U.P./N.K./01/2019-06/06/2019	किसरोली	795 2.000	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	सैद्धांतिक सहमति जारी	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	45
88	केशर गिटटी	श्री मुनेश कुशवाह पुत्र श्री नवल सिंह कुशवाह निवासी ग्राम कुर्रोली तहसील सबलगढ, जिला मुरैना 9425792680	QL/35/2021/1091-02/09/2021	सबलगढ	1005 1.000	–	–	–	Non-Working	Non captive	NO	खनन योजना अप्राप्त	Open Cast	22

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(खनिज शाखा)
जिला मुरैना (म0प्र0)

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Details of Royalty and Revenue received in last three years for Minor Mineral Mine lease (2018-19, 2019-2020 and 2020-2021)

Table Revenuereceived in last three years Mine lease

संं.क्र.	वर्ष	निर्धारित लक्ष्य	लक्ष्य के विरूद्ध प्राप्त राजस्व	प्रतिशत
1	2018-2019	800.00 Lakh	6,75,38,910/-	84.4
2	2019-2020	900.01 Lakh	9,42,20,393/-	104.5
3	2020-2021	1200.00 Lakh	16,63,59,383/-	138.63

Revenue received in last three years for Crusher Stone (Gitti) Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Revenue (In Rs.)
1	Gitti	2018-19	2,39,46,255/-
		2019-20	4,80,12,852/-
		2020-21	11,68,63,729/-

Mineral Production in last three years for Crusher Stone (Gitti) Minor Mineral Mine lease

s. no.	Name of Mineral	Year	Production in Cubic Meter
1	Gitti	2018-19	239462
		2019-20	400108
		2020-21	973864

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Uses of Minerals

Minor Minerals are mainly use for construction purpose. Minor Minerals' comprise of gravel, building stones, soil, ordinary clay, ordinary sand, and murrum. Other sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.

Crushed stone (Gitti): Angular crushed stone is the key material for macadam road construction, which depends on the interlocking of the individual stones' angular faces for its strength. Also use as rip rap, as railroad track ballast, as composite material (with a binder) in concrete, tarmac, and asphalt concrete.

Sand: Sand is used to give strength, bulk and other properties to construction materials like asphalt and concrete. In landscaping, it is used as a decorative material. A particular type of sand is used for glass manufacturing. Likewise, it is used for metal casting as a moulding material.

Murrum: It is a mixture of minerals, organic matters, gravels, rock particles etc. Murum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.

Soil: Ordinary earth soil used for filling the embankment, roads, railways and building. Soil which is excavated from mine is also used for different purpose of construction.

Brick Clay/Soil: Brick clay/Soil is rich in alumina, silica, calcium, oxides of iron, magnesium and organic matter. These are low grade clays used most for the manufacturing of building bricks and similar clay products.

Formation of sand

Majority of rivers originate from mountains and as they continue their journey with force, through these mountains, the bigger rocks and boulders disintegrate slowly, and over a period of time, starts rolling down as fragments. These fragments become smaller and smaller due to Weathering process by water, wind and other rocks. Thus, developed sand particles are transported, washed and stored and again transported during floods and deposited at river beds and largely on river shores.In case the sand deposits are mined / removed, cavities are formed in their place and again filled during next cycle(s) of deposition.

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River sand is preferred as a source of sand because of the following factors:

- Cities tend to be located near rivers so transport costs are low, the energy in a river grinds rocks into gravels and sands
- Eliminating the costly step of mining, grinding, and sorting of rocks
- The material produced by rivers tends to consist of resilient minerals of angular shape that are preferred for construction.
- Also, offer the advantages of being naturally sorted by grain-size, easily accessible, and able to be transported inexpensively using barges. Despite plentiful supplies of desert sand (Aeolian), which produce materials unsuitable for making concrete.

A meandering stream has a single channel that wind snakelike through its valley. As water flows around these curves, the outer edge of water is moving faster than the inner edge. This creates an erosionsurface on the outer edge (a cut bank) and a depositional surface on the inner edge (a point bar). Where the bends of two meanders meet, they bypass the curve of river, creating an oxbow lake which may then be in-filled with over wash sediment.

Meanders change position by eroding sideways and slightly downstream. The sideways movement occurs because the maximum velocity of the stream shifts toward the outside of the bend, causing erosion of the outer bank. At the same time the reduced current at the inside of the meander results in the deposition of coarse sediment, especially sand. Thus by eroding its outer bank and depositing material along its inner bank, a stream moves sideways without changing its channel size. Due to the slope of the channel, erosion is more effective on the downstream side of a meander.

The specific gravity of an aggregate is considered as the measure of strength or quality of the material. Specific gravity is defined as the ratio of weight of a given volume of aggregate to the weight of equal volume of water. Aggregates having low specific gravity are generally weaker than those with aggregates having high specific gravity. This property helps in a general identification of aggregates. The specific gravity of (sand) is considered to be around 2.65 to 2.67.Sand particles composed of quartz have a specific gravity between 2.65 to 2.67. While inorganic clays generally range from 2.70 to 2.80. Soils with large amounts of organic matter or porous particles have specific gravity below 2.60 (Some range as low as 2.00).

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Sources of sand

Sand is world's second most consumed natural resource after water. Rapid urbanization and global population growth have created unbound demand for this limited natural resource. With urbanization as key driving factor, construction industry has expanded considerably over the last few decades leading to overuse of river sand for construction purposes. This increasing discrepancy between the need for aggregates in the society and scarcity of natural sand due to exhaustion of resources and environmental considerations, has urged concrete manufacturers to look for a suitable and sustainable alternative fine aggregate. The economical and ecological alternative is manufactured sand.

Natural Sources

Natural sand is produced by natural forces, such as river sand and sea sand. Generally, sand found at foot of mountains is more weathered, containing more mud, organic impurities and light substances. Sea sand often contains shells and other impurities, and its components such as the chlorine, sulfate and magnesium salts may cause corrosion of steel bars. All the components will affect the performance of concrete. Sources of sand can be river bed material, de-siltation pits in reservoirs/dams, agricultural land etc. these can be broadly classifies as:

Following are the natural types of the sand:

- **Pit Sand**

This sand is found as deposits in soil and it is obtained by forming pits into soils. It is excavated from a depth of about 1 m to 2 m from ground level. The pit sand consists of sharp angular grains which are free from salts and it proves to be excellent material for mortar or concrete work. For making mortar, the clean pit sand free from organic matter and clay should only be used.

- **River Sand**

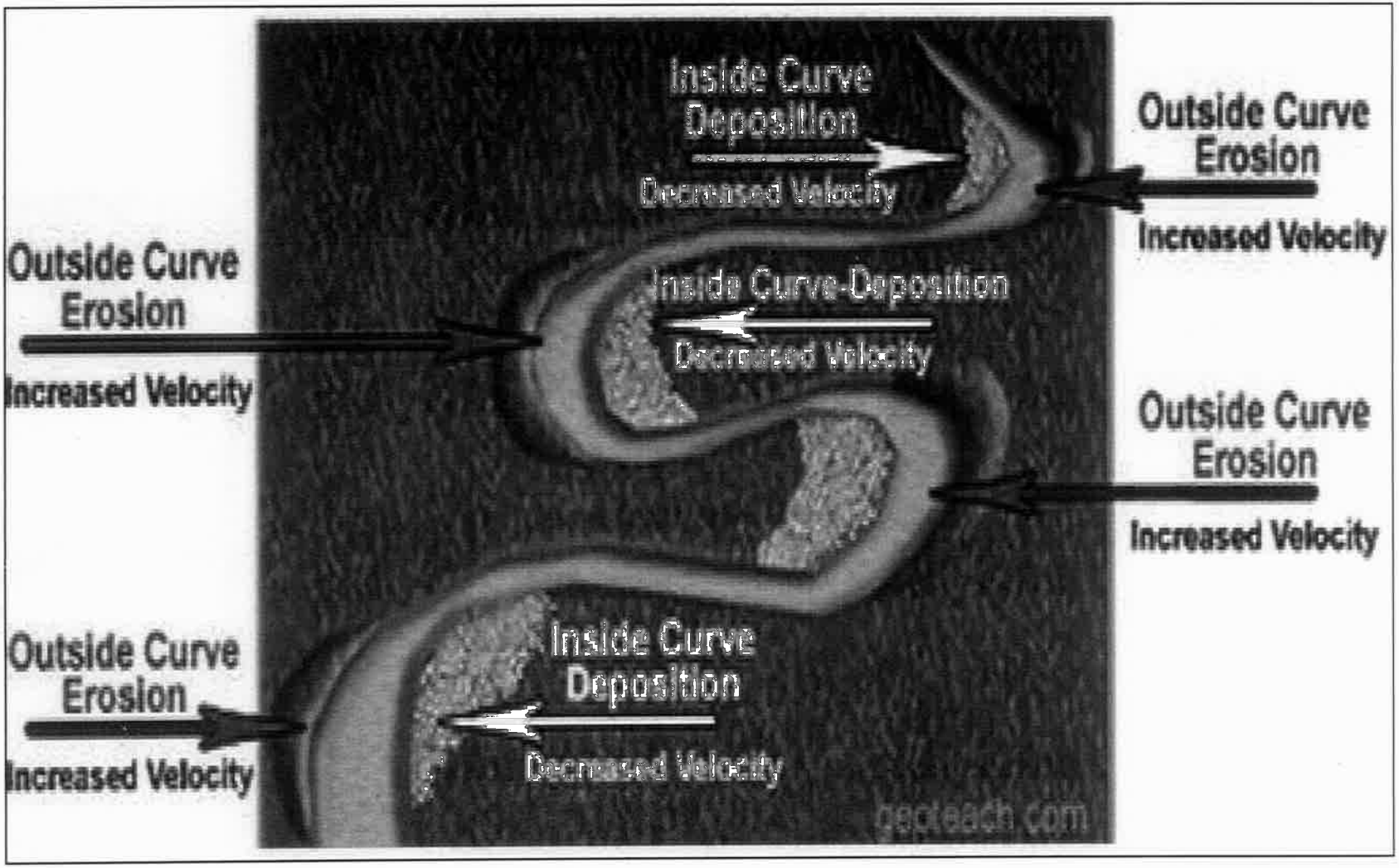
This sand is obtained from banks or beds of rivers. The river sand consists of fine rounded grains probably due to mutual attrition under the action of water current. The colour of river sand is almost white. As river sand is usually available in clean condition, it is widely used for all purposes.

- **Sea Sand**

This sand is obtained from sea shores. The sea sand, like river sand, consists of fine rounded grains. The colour of sea sand is light brown. The sea sand contains salts. These salts attract moisture from the atmosphere. Such absorption causes dampness, efflorescence and disintegration of work. The sea sand also retards the setting action of cement. Due to all such reasons, it is the general rule to avoid the use of sea sand for engineering purposes except for filling of basement, etc. It can however be used as a local material after being thoroughly washed to remove the salt.

Manufactured Sand

Manufactured sand (M-Sand) is artificial sand produced from crushing hard stones into small sand sized angular shaped particles (rock particles with a particle size of less than 4.75 mm and is made by artificial crushing and sieving after soil removal treatment), washed and finely graded to be used as construction aggregate. It is a superior alternative to River Sand for construction purpose. The main technical indicators of artificial sand are particle gradation, fineness modulus, stone powder content, void ratio, apparent density, bulk density, methylene blue value (MB), crushing value index, mica content, light-matter content, etc.



Conducive Areas for sand deposition

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Sand Mining

Sand Mining is an activity referring to the process of the removal of sand from rivers, streams and lakes.

- Sand is mined from beaches and dredged from river beds.
- There are no official figures for the amount of sand mined illegally, but in 2015-16, there were over 19,000 cases of illegal mining of minor minerals, which include sand, in the country.
- To stop illegal mining, the Ministry of Environment, Forest and Climate Change (MoEF) issued Enforcement and Monitoring Guidelines for Sand mining.
- These guidelines focus on the effective monitoring of the sand mining.

Following considerations shall be kept in mind for sand mining:

- Parts of the river reach that experience deposition or aggradations shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations problem.
- Sand and gravel may be extracted across the entire active channel during the dry season.
- Abandoned stream channels on the terrace and inactive floodplains are to be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- Layers of sand which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- Sand shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- Sand and gravel shall not be extracted up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a

minimum of 250 meters on the upstream side and 500 meters on the downstream side.

- Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
- The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
- The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, and this sandy-gravelly track constitute excellent conduits and hold the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
- Mining depth should be restricted to 3 meters and distance from the bank should be ¼thor river width and should not be less than 7.5 meters.
- Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
- A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
- River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

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- The mining from the area outside river bed shall be permitted subject to the condition that a safety margin of two meters (2 m) shall be maintained above the groundwater table while undertaking mining and no mining operation shall be permissible below this level unless specific permission is obtained from the Competent Authority. Further, the mining should not exceed Three-meter (3 m) at any point in time.
- The permanent boundary pillars need to be erected after identification of an area of aggradations and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.

General Profile of the District

Geographical Information:

Geography & Climate	
Latitude	$76^0 30''$ से $78^0 33''$
Longitude	$25^0 17''$ से $26^0 52''$
Height from Sea Level	150-300 mts.
Average Rainfall	862.6 mm.
Temperature (Avg Max to Min)	47.10° C to 3.8° C
Area & Population	
Geographical Area	4989 sq.km.
Forest Area	50,669 hectares
Total Population	19,65,970
Tehsils	7 Nos.
Blocks	9 Nos.
Total Gram Panchayats	478 Nos.
Total Zanpad Panchayats	9 Nos.
Total Municipals	9 Nos.
Total Rural Population	14,95,508 Nos.
Total Urban Population	4,70,462 Nos.
Total Males	10,68,417 Nos.
Total Females	8,97,553 Nos.

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Land utilization Pattern in the District: Forest, Agricultural, Mining, etc.,

FOREST:

The forest are mostly tropical dry deciduous type Kardhai (Anogeissus pendula) is most important species. The quality of Kardhai depends on the depth, drainage, rainfall, etc. But most important factors is altitude and moisture contents of the soil. Kardhai occurs almost pure on the flat areas, on the higher altitude Kardhai is noticed on slopes having cooler aspect. Other common tree species noticed are salai (Boswellia serrata) dhooda, khair (Alacia Catechu), tendu, krir dhudhi, medha-singh (Dolichandron faleata), arjun, kulhu (stereulia urens), kusum, kasai, kari (miliusa tomentosa) semal (salmalia mala-barica) aonla, kala siris (Albizzia lebbek), safed siris (Albizzia Procers), palas (Butea monosperma), haldu, spisham (Dalbergio latifelia), padar, raj etc. The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor. The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jorra CD blocks. The forests are dry and autumnal. Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) 564, wild boar 112, jackal 1072, hyenas 74, peacocks 72,152, rabbits 107, foxes 171, syah 61, wolves 35, spotted deer's 12, deer's 471 and bears 27 are the wild life found. The district has black buck, cheetal, nilgai, sambhar, etc in the forest. The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The other common dear species is barking deer (mantiaeus muntejak). They are found in thick forest and come out to graze in open areas, Chinkara and black buck are ANALYTICAL NOTE DISTRICT CENSUS HANDBOOK : MORENA 5 very active animals. The black faced monkey (presliytic entallus) is seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). Grey jungle and jungle fowls are also be seen. The common snakes in the district are cobra, craite, python etc.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न :–** राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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AGRICULTURE:

The soil of the district is alluvial. The level of the river banks land are also alluvial. The economy of the district is mainly based on agriculture. More than 50% land is under cultivation. The double crops i.e. Rabi and Kharif crops are wholly sown in the district. Under kharif crops jawar, bajra, rice, tuar, urad and moong are sown and under Rabi crops wheat, gram and mustard are sown. Mustard is sown in the largest area of the district. Main crops according to use of area is mustard 174,982 hect., wheat 81,506 hect, gram 12,704 hect, vegetables 608 hect's and spices in 239 hect.

MINING:

Morena district holds a distinct place in the state with respect to sand stone mining .
In the district mainly sand stone, clay, gitti, murum and sand are found.
Morena distt sand deposites in the Chambal river century which is probited for the sand mining.

*2. भारत सरकार का राजपत्र प्रकाशन दिनांक 21 फरवरी 2020 पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना अनुसार राष्ट्रीय चंबल अभ्यारण्य (चंबल नदी) से रेत खनन प्रतिबंधित किया गया है। **संलग्न** :– राजपत्र प्रकाशन दिनांक 21 फरवरी 2020*

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Physiography of the District

Morena district is extended in the north 250 17' to 260 52' latitudes and 760 30' to 780 33' East longitudes. The river Chambal flows forming all northern boundaries of the district and divides Rajasthan and Uttar Pradesh from the district. In the south-east of the district is Gwalior, Shivpuri in south, Bhind in east, Agra (U.P) in north-east, Dhaulpur and Karauli (Rajasthan) in north-west and Sheopur in southwest. The district is situated at 150 to 300 meters from the mean sea level. As reported by Surveyor General of India, its geographical area is 4,989 sq.km. It is the 34th largest district of the state in respect of area which is 1.6% of the total area 308,244 sq.kms of the state. The district lies on the meeting point of the Vindhyan Plateau and the low lying zone of Chambal Valley. The southeren and the south-eastern parts of the district lie on the Vindhya Plateau and the northern part and the north-western belt along the Chambal lie in the valley. The plateau is the part of northern edge of the Malwa and the great Vindhya plateau which extends upto Gwalior and Morena district. The general height is about 300 meters above mean sea level. In this part the ridges and low hills of Bhander sandstones are marked, whose height is about 350 to 400 meters. The slope is towards south to north-west. The major part of the district is the part of Chambal valley whose average height is 160 meters from the mean sea level. The Chambal valley can be divided into two parts i.e. the first part is the bank of Chambal ravines (Beehads) where series of ravines deep gullies and ridges of dividing moulds are developed. On the other hand the main canal of Chambal of south-eastern plain part is very fertile.

Details of Month wise Rainfall data of 1year

Tehsil/ Month	PORSA	AMBAH	MORENA	JOURA	KAILARAS	SABALGRAH
Jan	2.0	3.0	3.0	2.0	7.0	3.0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	8.0	5.0	10.2	18.0	12.0	3.0
jun	23.0	13.0	27.0	14.0	42.0	67.0
jul	152.0	108.0	256.2	181.0	188.0	232.0
Aug	205.0	197.0	198.8	163.0	177.0	365.0
Sep	335.0	165.0	92.8	155.0	141.0	225.0
Oct	40.0	49.0	30.4	30.0	17.0	34.0
Nov	0	0	1.0	0	4.0	3.0
Dec	2.0	7.0	6.0	4.0	9.0	12.0

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Rainfall of the District and Climate Conditions

Rainfall

Morena has a cool and dry climate .The hot weather starts from about the middle of April and lasts up to mid of May. The temperature in June touches 47 degree Celsius. By the end of June or by the 1st week of July, the monsoon breaks and the weather becomes cool, through humid. The district receives its rains from the Arabian Sea. The rains are over generally by end of September. Morena receives on an average 530 mm of rain.

Climatic Conditions

The climate of this district is semi dry and generally dryness prevails in the region. The heat is intense in summer, dust-laden scorching winds and heatstroke flows which often makes the weather very uncomfortable. The mean daily temperature in the months of May and June is maximum 44.0 celsius. In cold season the district has freezing cold and temperature drops to 2.80 celsius. During the monsoon season light air blows west to east . After the withdrawal of the monsoon and winter there is slight air that flows mostly from north to north western direction. Generally rainfall in the district is irregular and on an average the annual rainfall recorded is 862.6 mm . About 92% of the rainfall in the district is received during June to September.

The forest are generally open and poorly stocked over considerable part of the area, due to shallow nature of the soil. The height and diameter growth of trees are in general poor.

The reserved forest area in the district is 50,669 hectares and 26,847 hectares is protected forest which are mostly found in Sabalgarh and Jaura CD blocks. The forests are dry and autumnal Fire wood, grass and gum are mainly found in these forests . In forest areas, Blue bull (Neelgai) , wild boar , jackal , hyenas , peacocks , rabbits , foxes , porcupine, wolves , spotted deers and deers and are the wild life found.The deer group of animal is represented by chital (Axis) which used to be seen in herds. Now such herds are rarely seen. The other common deer species is sambhar (cervus unicolar) which is generally seen in hilly areas. The black faced monkey (presliytic entallus) are seen in the forests. The other animals generally noticed are hyaena, wild dog, fox etc. The most magnificent quite common birds found locally is peacock (pavo cristatus). The common snakes in the district are cobra, craite, python etc.

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जिला कार्यालय (खनिज शाखा) मुरैना

Geology of the District

Vindhyan Super group of rocks of Meso to Neo-Proterozoic age, Laterites of Cainozoic age and Quaternary Alluvium are the rock types exposed in the area, The Vindhyan Supergroup in the area is represented by Kaimur, Rewa and Bhander Group of rocks. Kaimur in the area is represented Dudauni Sandstone. The rock is white to dirty white in colour, fine to medium grained, thinly to thickly bedded with interbands of siltstone at places. The rock is fine grained, thickly bedded and massive towards the top. The Rewa Group is represented by Jhiri Shales and Upper Rewa Sandstone. Jhiri Shale conformably overlies the Dudauni Sandstone with a sharp contact. The shale is predominantly argillaceous in nature and olive green to khaki, grey, chocolate brown to reddish brown, splintery and thinly bedded with minor interbands of siltstone containing numerous veins of calcite. The Upper Rewa Sandstone is represented by light grey to greenish grey, brown, pink, white to dirty white, fine to medium grained and moderately sorted glauconitic sandstone. The rock is quartzitic and flaggy to thickly bedded in nature, The Bhander Group, which overlies the Rewas with a gradational contact, is represented by Ganurgarh Shale, Lower Bhander Limestone, Lower Bhander Sandstone and Sirbu Shales. Ganurgarh Shale is the lower most formation of Bhander Group of rocks and is represented by greyish green, reddish brown to dark brown, purple coloured shale. The rock is friable, splintery to thinly laminated in nature. It is generally ferruginous, at places arenaceous and calcareous towards the top. It shows intercalations of limestone at places. Ganurgarh Shale is overlain by the Lower Bhander Limestone. Being an almost persistent horizon, the limestone forms good marker horizon. It is marked by occasional presence of intraformational breccia at the base. This limestone is typical ash grey in colour, fine grained, thinly to thickly bedded and shows elephant skin weathering and breaks along the conchoidal fractures. Overlying the Lower Bhander Limestone, the Lower Bhander Sandstone is exposed in the western part of the area. It is dirty white, pinkish to light brown colour, fine to medium grained, quartzitic and thinly to thickly bedded. Cross bedding of tabular and trough type are common in this rock. The overlying Sirbu Shale is greenish to greenish blue, pale grey, purple, red and brown in colour with thin interbands of siltstone at places. The shale generally thinly bedded and splintery.

Laterite forms flat and slightly undulatory capping over the rocks of Vindhyan Supergroup. It occurs at two elevations between altitudes of 425 m to 530 m above m.s.l. It is dark reddish brown and red in colour and mainly consists of Haematite, Goethite, gibbsite, few opaques and quartz. Quaternary Alluvium consisting of unconsolidated to consolidated yellowish brown sand, silt and clay with gravel and pebbles forms the youngest formation exposed in the area. The thickness of the alluvium varies from a meter to more than 15m. The area exhibits good development of sedimentary structures viz, current bedding, ripple marks, rain prints, rib and furrow structures, ball and pillow structures, mud cracks, clay balls, concretion, load and flute structures etc. The general strike of the bedding is N-S to NNE-SSW with varying dips of 4 to 10° towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW- SE, NE-SW, E-w and NNE-SSW with vertical dips.

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STRATIGRAPHIC STATUS

LITHOLOGY	***STRATIGRAPHIC STATUS***		***NATURE AND CHARACTERISTICS***
Alluvium	*Quaternary*		*Unconsolidated, semi consolidated and consolidated, grey to yellowish brown sand, silt and clay with gravel and pebble*
Laterite	*Cainozoic*		*Dark reddish brown and red in color, consists of limonite, goethite, gibbsite some opaque minerals and a few quartz Grains*
Sirbu Shale	*BHANDER GROUP*	***VINDHYAN SUPERGROUP***	*Greenish to greenish blue, pale grey, purple red and brown in color, thinly bedded, splintery, with interbands of Siltstone at places*
Lower Bhander Sandstone			*Dirty white, pinkish to light brown in colour, fine to medium grained, quartzitic, thinly to thickly bedded, cross bedding of both tabular and trough type present*
Lower Bhander limestone			*Ash grey in colour, fine grained, thinly to thickly bedded, shows elephant skin weathering and brakes along the concoidal fractures*
Ganurgarh Shale			*Greyish green, reddish brown to dark brown, and purple coloured, friable, splintery to thinly laminated, generally ferruginous, at places arenaceous and calcareous towards the top*
Upper Rewa Sandstone	*REWA GROUP*		*Light grey to greenish grey, brown, pink, white to dirty white in colour, fine to medium grained, moderately sorted, quartzitic, flaggy to thickly bedded and Glauconitic; shows intercalations of shale*
Jhiri shale			*Olive green to khaki, grey, chocolate brown to reddish brown in colour, splintery and thinly bedded with minor interbands of siltstone with calcite veins*
Dudauni Shale	*KAIMUR GROUP*		*White to dirty white, fine to medium grained, thick bedded and massive toward top.*

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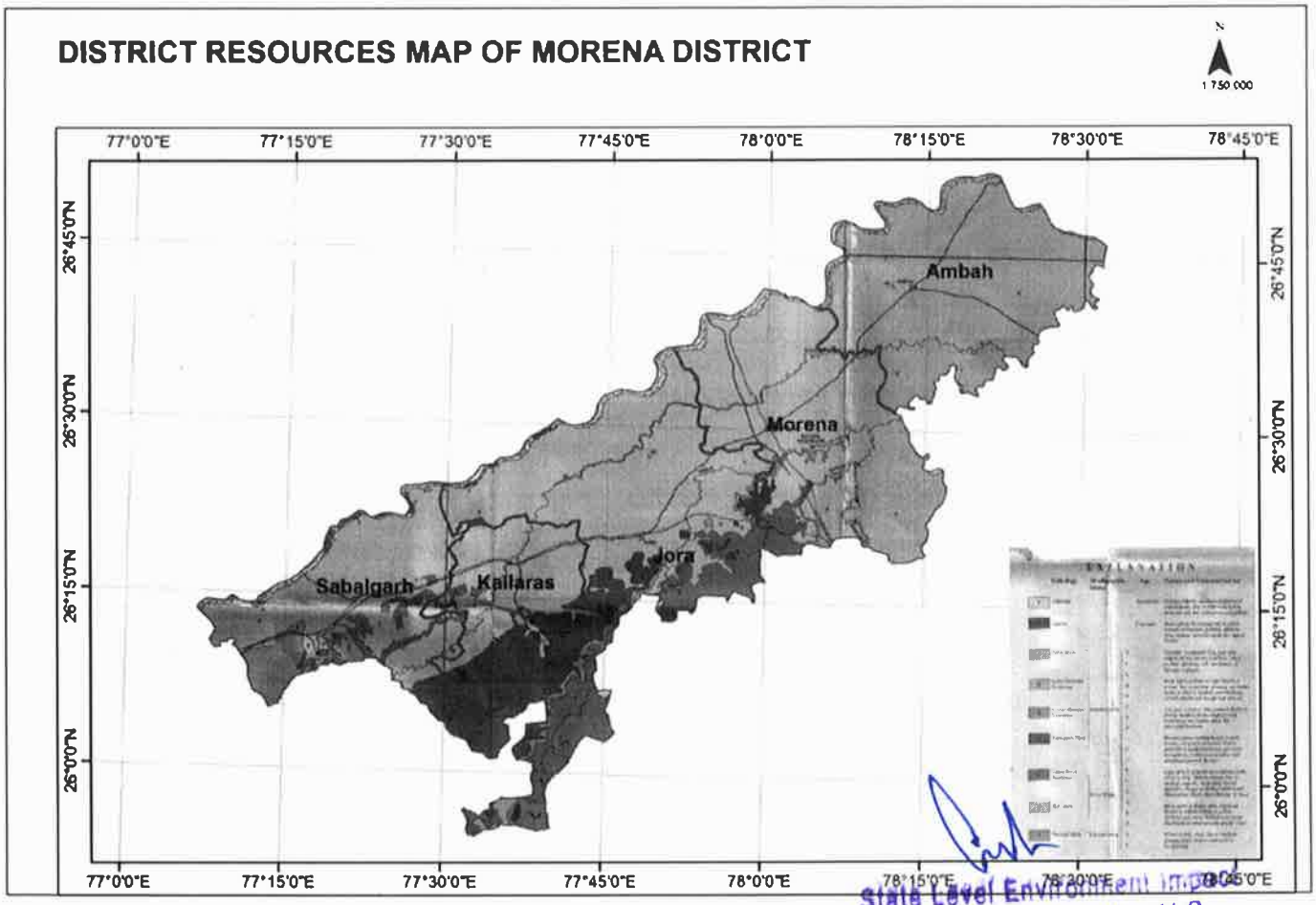
Geological Map of the District



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DRAINAGE

The district falls in drainage area of Ganges system. The whole water of the district drained out through Chambal river which joins the Yamuna . Generally, the flow of the water is towards north-east. Chambal is the main river of the district. Asan and Kunwari are the tributaries of Chambal river.

(1) The Chambal river :

This river flows from west to north in the district. The Chambal river rises from the Janapao hills (854 meters)in Indore district. It flows through Indore ,Ujjain, Ratlam, and after Mandsaur through Rajasthan. At the point of Parvati confluence it touches the Sheopur district and forming the eastern boundary of the district. It enters Morena district north to Nitanvas and makes the inter-state natural boundary between Madhya Pradesh and Rajasthan and flows ahead. After identification of boundary of Uttar pradesh it joines Yamuna river in Etawa district.The Chambal valley has high banks with deep and widely development ravines by which it is known as Chambal ravines (Chambal Beehad).

(2) Asan river

This river rises from the plateau of Deori in Vijaypur tahsil of Sheopur district . It makes about 24 kms. boundary away from the district and flows north-easterly course. Its course has two dams at Pagara and Kutwar. The river forms the district boundary with Bhind for some distance and flows towards north of Bhind district . The main tributary is Kunwari which joins at Sangoli village . On the right bank of the district the south or the Sank is the only tributary joining the Asan from the north-eastern course of Kutwar dam.

(3) The Kunwari river

The Kunwari river rises from the north-eastern plateau of Deogarh in Shivpuri district and enters Sabalgarh tahsil of Sheopur district . It flows towards north east at the middle part of the district and flows to Joura, Morena and Ambah tahsil and joins Asan river. The small tributaries like Sole, and Son etc. are flowing in the district.

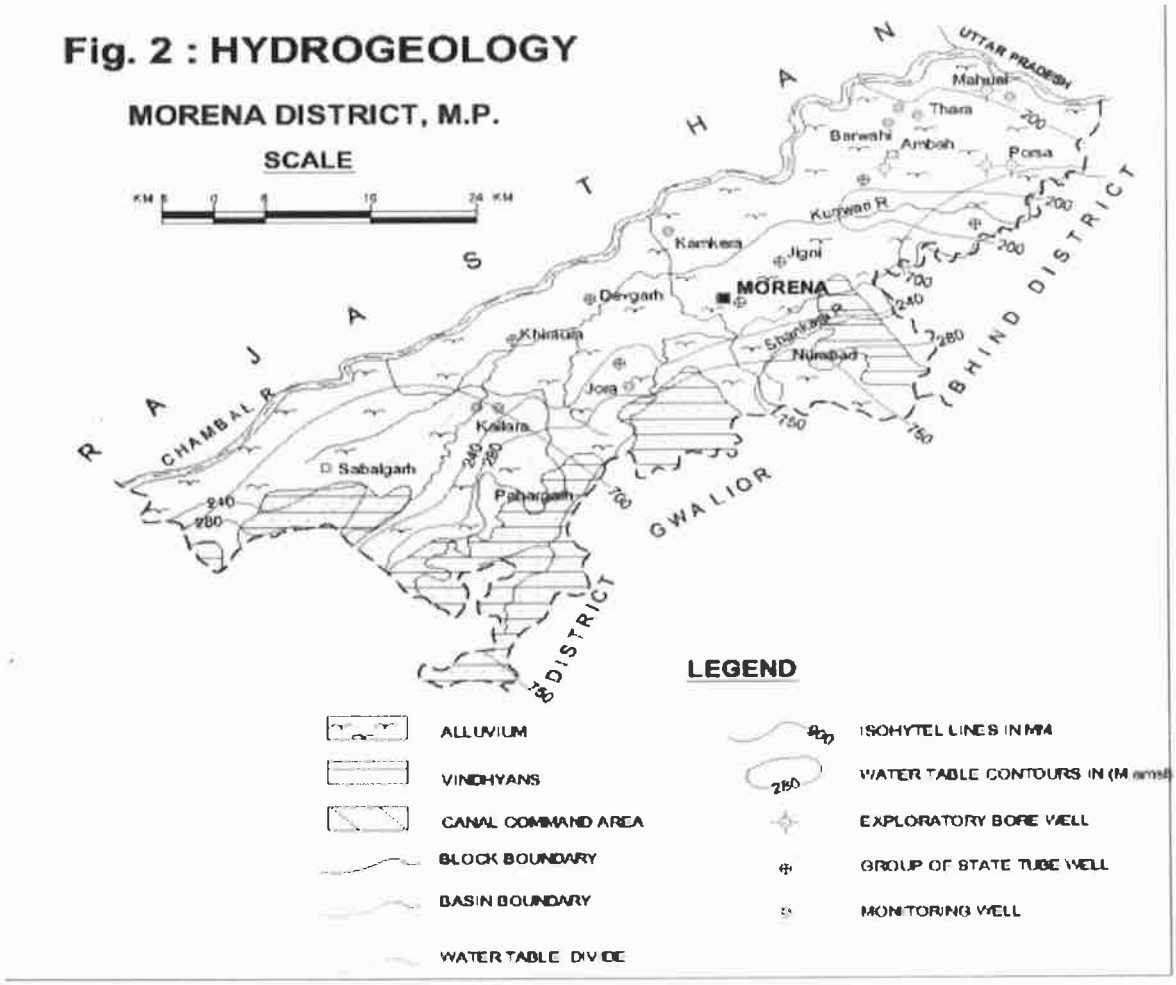
Irrigation Practices

Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels.

Surface Water and Ground water scenario of the District

Ground Water SCENARIO

Hydrogeology The hydrogeological map of the district is presented as figure 2.

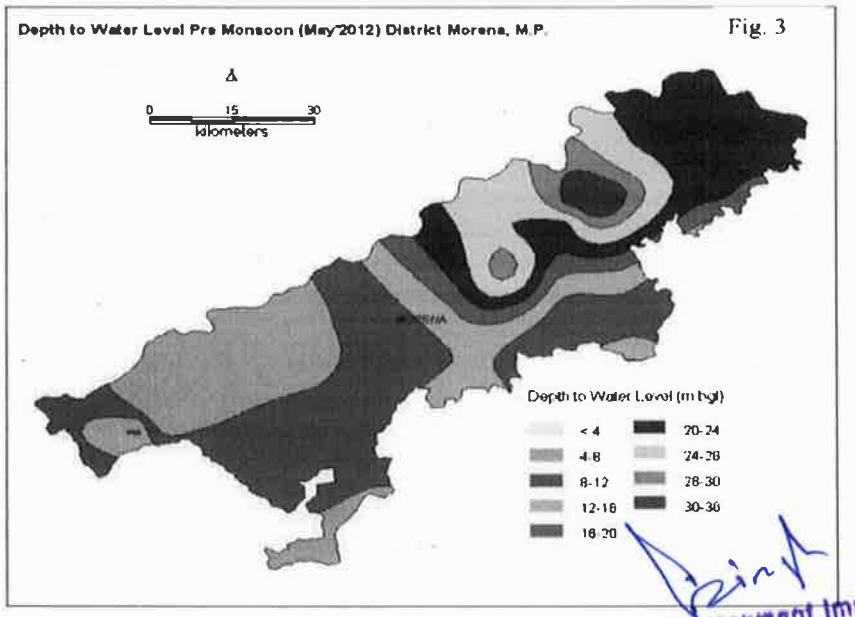


Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz., current bedding, ripple marks, rain prints, rib and furrow structures, ball and 3 pillow structures, mud cracks, clay balls, concretions, load and flute structures etc. The general strike of the bedding is North-South to NNE-SSW with varying dips of 4 to 10 degrees towards west and north. The deformational structures of the area are mainly represented by various sets of joints trending NW-SE, NE-SW, E-Wand NNE-SSW with vertical dips. (GSI) The sandstones are hard and compact with siliceous matrix and as such are devoid of primary porosity and permeability. But wherever they are weathered and jointed secondary porosity and permeability is developed and made them water bearing. It is observed that sandstones in general are poorly and moderately weathered (2 to 4 metres) and at places they are jointed and do not posses sufficient ground water potential. Ground water occurs under water table condition and exists in weathered portions and in jointed zones. The shales are fine grinded and compact and are porous but are not permeable. At most places in most of the area shales are devoid of ground water but near river beds they form water bearing due to the presence of bedding planes and joints. Ground water occurs under water table conditions. The water holding capacity in alluvium mainly depends upon the thickness and the aerial extent. It is found that along the

banks of Chambal and Kanwari rivers, gully erosion is very common and spread over 1 to 2 Km away from the banks. It is more clayey and silty and as such has poor to moderate water bearing capacity. One or two aquifers are present in the formation and ground water is found to be under phreatic as well as semi confined to confined conditions. Central Ground Water Board had constructed 11 exploratory wells and 8 observation wells in the area. The details of aquifer zones, discharge, water levels and aquifer parameters etc., are given in Table 1. It is observed that Alluvium forms prolific aquifer whereas Vindhyans forms poor aquifer in the district.

4.1.1 Water levels

Water level data, including historical data, are essential not only to know the present ground water conditions but also for forecasting future trends in response to ground water reservoir operations. CGWB is monitoring 17 NHS wells in the district. Pre and Post monsoon depth to water level maps are prepared and presented (Fig 3 &4) 4.1.1.1 Pre- monsoon (May, 2012) Pre monsoon depth to water levels map is presented as figure 3. A perusal of map reveals that the depth to water level ranges from less than 5.6mbgl to 31.78 mbgl in the district. However, in major part the DTW is less than 28 mbgl. DTW of more than 30 mbgl was observed in an isolated patch in north eastern par



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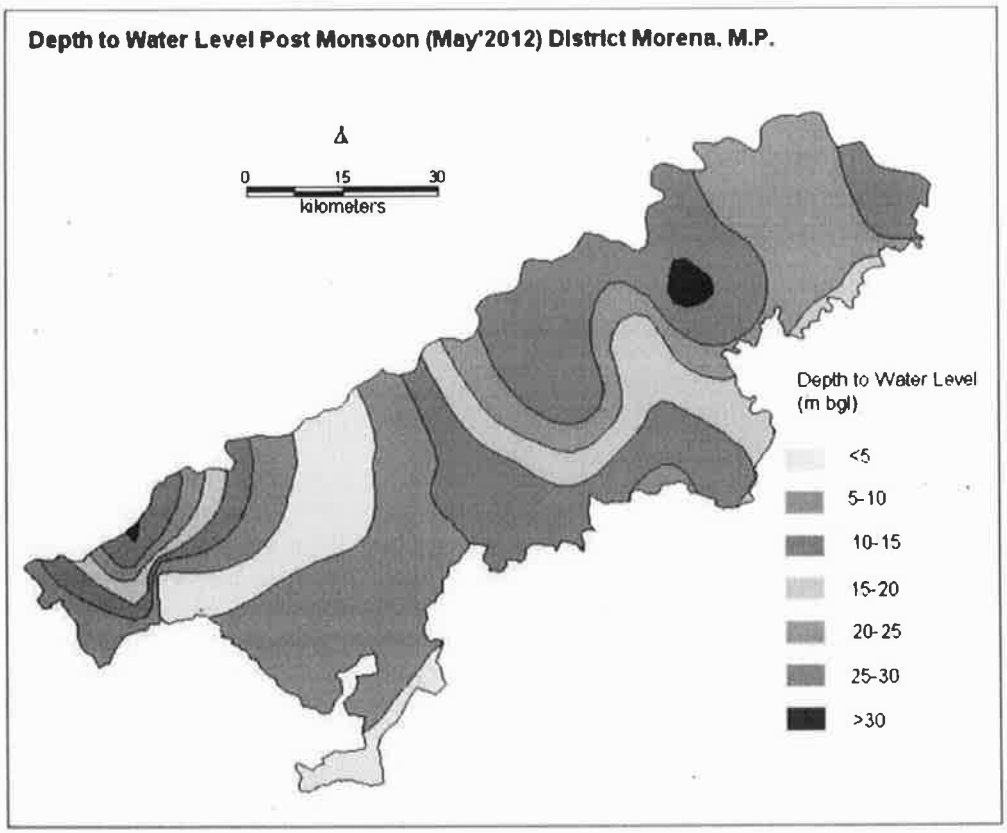
Post- monsoon (Nov. 2012)

Post monsoon depth to water level map is presented as figure 4. during post monsoon period, water levels ranges from 1.60 mbgl to 31.78 mbgl. However, in major part the depth to water level is less than 30 mbgl. Deeper water level of more than 30 mbgl is observed in two small isolated patches one each in western part and in north easten part. Long term water level trend for 10 years (2003-10) shows that there is overall decline in the area. The decline ranges from 0.61 cm/year to 106 cm/year.



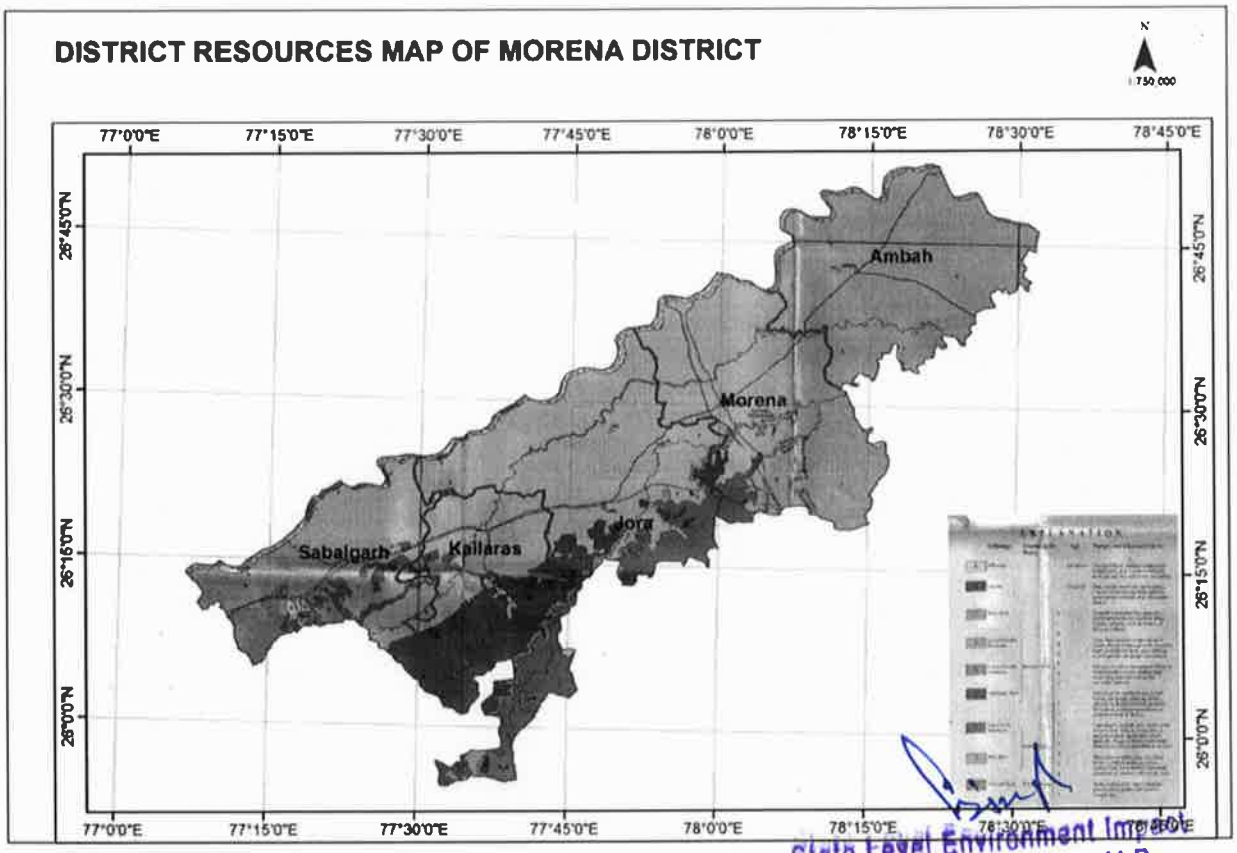
4.2 Ground Water Resources (2009)

Morena district is characterized by alluvial formation, Vindhyan Formation and Gwalior Series. Dynamic ground water resources of the district have been estimated for base year -2008/09 on block-wise basis (Table 2). There are seven assessment units (block) in the district which fall under command (48 %) and non-command (52 %) sub units. Non command areas of Kailaras , Morena and Sabalgarh blocks of the district are categorized as semi critical . The highest stage of ground water development is computed as 74 % in Morena block. The net ground water availability in the district 64,244 ham and ground water draft for all uses is 27,597 ham, making stage of ground water development 43% as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 34,232 ham.

4.3 Ground Water Quality

Ground water quality in Morena district is assessed annually by CGWB on the basis of analysis of ground water samples collected from hydrograph stations located in the district. The Electrical conductivity ranges from 550 to 2080 µS/ cm at 25°C. The Fluoride is within permissible limits and ranges from 0.06 mg/l to 1.4 mg/l. The Nitrate ranges from 2.5 mg/l to 298 mg/l.

Mineral Map of the District



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Total Mineral Reserve available in the District

Total mineral reserve available in the district

S. no.	Mineral Name	Total Mineral Reserve
1.	Crusher gitti	5494402 Cu. M.
2.	Flagstone	310575 Cu. M.
3.	Murrum	260125 Cu. M.
4.	Clay For Bricks	567000 Cu. M.
5.	Khanda	226807 Cu. M.
6.	Boulder	19726 Cu. M.

Quality/Grade of Mineral available in the District

There is quality of mineral available as a minor grade is present in the Morena District. As we have assessed mineral availability of the district is fare and acceptable quality and it has commercial value. There are various minerals and ore available in the district as it is given in our next chapter

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Demand and supply of the Mineral In last three Year

Minerals Name	Year wise Supply according to Demand			Remark
	2018-19	2019-20	2020-21	
				MinorMineral
Flag stone	37240	34922	39395	Mainly it is used for Construction purpose. Flagstone supply is on the basis of demand on the market
Khanda	18890	9896	14061	
Boulder	0	2700	45500	
Murum	3754	28275	40533	It is a mixture of minerals, organic matters, gravels, rock particles etc. Murrum is used in plinth filling, road pavements, backfilling in trenches, footing pits, etc. Given that it doesn't contain any organic matters and can be compacted easily forming hard surfaces, it is a soil suitable in the field of construction.
Stone/Gitti	239462	400108	973864	minor mineral such as stone /Gitti , sand are supply basis of demand on the market
Sand	0	0	0	

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Details ofEco– Sensitive Area,

This Sanctuary was established in 1978 and is spread across an area of 435 sq km. The National Chambal Sanctuary is famous for the rare gangetic dolphin. Apart from which, the other inhabitants of the sanctuary include magar (crocodile) and gharial (alligator), chinkara, sambar, nilgai, wolf and wild boar. As the Sanctuary is basically situated in the river, fairs are organised on every religious occasion, such as Somvati Amavasaya, Lunar Eclipse Solar Eclipse, Ganga Dashhara etc. The fairs are organised at different Ghats of the river Chambal, Fort of Ater, Fort of Pinahat, Padhawali Archeological spot of Kuntalpur, Kakanmath temple. Other destinations close to the Sanctuary are Agra, Gwalior, Kakanmath temple, Bird Sanctuary Bharatpur, etc. Forest rest houses are available for accommodation at Etawah, Bah, Baiwan, Chakar Nagar and Sarson.

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Impact on the Environment due to Mining Activity

Generally, the Environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project, secondary impacts are those, which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the baseline environmental status for the entire ROM which is proposed to exploit from the mines.

Air

Mining Operations are carried out by opencast semi mechanized/ Mechanized method, dust particles are generated due to various activities like, Excavation, Loading, handling of mineral and transportation. The air quality in the mining area depends upon the nature and concentration of emissions and meteorological conditions. The major air pollutants due to mining activity includes: -

- Particulate Matter (Dust) of various sizes.
- Gases, such as, Sulphur Dioxide, Oxides of Nitrogen, Carbon Monoxide etc., from vehicular exhaust.
- Dust is the single Air pollutant observed in the open cast mines. Diesel operating drilling machines, small amount of blasting and movement of machinery/ vehicles produce gaseous (NO_x and SO_x) emissions, usually at low levels. Dust can be of significant nuisance surrounding land users and potential health risk in some circumstances.

Water Impact

The mining operation leads to intersection of the water table which causes ground water depletion. Due to the interruption surface water sources like River, Nallah, Odai etc., surface water system, Drainage pattern of the area is altered.

Noise

Noise pollution is mainly due to operation of Machineries and occasional plying of machineries. These activities will create Noise pollution in the surrounding area.

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Land Environment

The topography of the area will change; due to the Topographical changes the entire Eco system will be altered.

Flora and Fauna

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics. Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and floral status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

Remedial Measure to mitigate the impact of Mining on the Environment:

Air

Mitigation measures suggested for air pollution controls are based on the baseline ambient air quality of the area

The following measures are proposed to be adopted in the mines such as,

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be considered.
- Transport of material in trucks covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine areas.
- Information on wind direction and meteorology will be considered while planning, so that pollutants, which cannot be fully suppressed by engineering technique, will be prevented from reaching the nearby agriculture area.
- Comprehensive green belt around overburden dumps has to be carried out to reduce to fugitive dust emissions in order to create clean and healthy environment.

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Water

- Construction of garland drains to divert surface run-off into the mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.

Noise

- Periodic maintenance of machinery, equipment shall be ensured to keep the noise generated at minimum.
- Development of thick green belt around mining area and haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities. Workers and operators at work site will be provided with earmuffs.
- Conducting periodical medical check-up of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise level effects.
- Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficiency of adopted control measures.
- During the blasting, optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate as approved by Director of Mines safety.

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Land Environment

- Riparian vegetation should be developed that doesn't stress with changes over short period of time.
- Safety barrier zone should be left out in order to prevent quick sand condition or rapid erosion of river banks.
- Development of suitable greenbelt in safety and barrier zone
- Waste dumps should be stabilized taking proper measures
- Degradation of land environment should be checked by briefing the worker about routine works regarding cleanliness and proper mining measures.
- No such infrastructure or any construction should be done that might hinder the natural flow of the river.

Biological Environment

- Development of gap filling saplings in the safety barrier left around the quarry area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy leaves on the inactive mined out upper benches.
- Development of dense poly-culture plantation using local flora species in the mining area at conceptual stage.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.
- Construction of garland drains and settling tank to arrest silt wash off from lease area.
- Construction of retention walls around lower boundary of mining area to arrest silt wash off and roll down boulders.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.

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Reclamation of Mined out area

There is no proposal for backfilling, reclamation and rehabilitation. The quarry pit should be fenced by barbed wire to prevent inherent entry of public and cattle. The quarried out pit will be allowed to collect rain and seepage water which act as a reservoir for storage. The Quarried pit may be used as water reservoir for both Domestic and Agriculture purpose, in case of stone mining and inland sand mining. For River sand mining, the quarry should be demarcated using pillars and left for replenishment during monsoon season. No mining should be undertaken during monsoon period to avoid accidents and mishaps.

Details of the area of where there is cluster of mining lease viz no. of mining lease location.

Details of the cluster of Mining Lease

S. No.	Tehsil	Name of the Lease	Khasra No	Area in ha.
1.	SABALGARH	BAKASPUR	552,553	6.000
2	SABALGARH	SABALGARH	1005	8.000
3	SABALGARH	KULHOLII	1605	5.700
4	KAILARAS	KISROII	857, 863, 1173, 735	22.500
5	JOURA	MAJRA	702, 445, 446, 630, 438, 439	12.800
6	JOURA	KASHIPUR	522, 521, 445, 630, 444, 702	12.3
7	MORENA	URHANAA	1251, 1244, 1261	28.00
7	MORENA	BADWARII	1523,1524,1525, 1528,1530, 1536, 1537, 1538, 1539,	22.526

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Sand Replenishment Plan and Projections

Sand Replenishment Assessment

The process of sand replenishment is highly dependent upon the rainfall received in the catchment areas of rivers and their tributaries and velocity of river. It is a dynamic process. Thus it is difficult to predict, what quantity of sand may be reclaimed/ replenished by river. Because, in case of less rain, less water in the river, there may be less erosion and transportation may also be minimal and as a result deposition too will be less. Moreover, in case of floods, the sudden gush of water may force the change in river course, thus old sites of sand deposition may not be relevant. Thus, the above figures may just be a mere prediction, based on the production in the preceding years. More so, practically, it is not possible that in such a short period, single person can visit each spot within the district and determine how much quantity of sand may be replenished every year. The data narrated in the report, regarding annual deposition of sand and associated aggregates and minable mineral potential is concerned, is only an estimation based on the production data provided by the district mining office. Thus, the figures may vary from area to area and year on year basis. Therefore, this document is not a static one but have to be a dynamic one, the figures of which may vary with respect to the area under question for which the prior environmental clearance will be sought.

In order to establish a safe extraction limit, such that the extracted sand gets replenished annually, a replenishment study is to be carried out. For this purpose, the river bed RL at selected points in the dry portion of riverbed will be measured during pre-monsoon period and again during post- monsoon period in order to assess the annual quantum of sand deposition. If it is observed that, there is an average increase in riverbed RL, it shows that it is due to deposition of sand during the monsoon flow of the river and by multiplying it with the area of lease one can measure the quantity of sand replenished every year. Sand quarrying from the river bed will have both positive and negative impacts.

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NEGATIVE IMPACTS

It includes destruction of natural river course, sand erosion, bank erosion, bank cutting and widening and deepening of river bed, change in hydrological status and recharging conditions and destruction to closely linked flora, fauna and aquatic life.

POSITIVE IMPACTS

Employment and socio-economic status of the habitats living besides the river depends on sand mining industries. Construction of concrete infrastructure, roads and some other related activities depends on the river bed sand. Continuous accumulation of sand ultimately leads to the reduction in water carrying capacity of the river leading excessive flood in the river. Sustainable extraction of sand from river will lead to overcoming the problem.

Initially replenishment study requires four surveys. The first survey needs to be carried out in the month of April for recording the level of mining lease before the monsoon. The second survey is at the time of closing of mines for monsoon season. This survey will provide the quantity of the material excavated before the offset of monsoon. The third survey needs to be carried out after the monsoon to know the quantum of material deposited/replenished in the mining lease. The fourth survey at the end of March to know the quantity of material excavated during the financial year. For the subsequent years, there will be a requirement of only three surveys. The results of year-wise surveys help the state government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.The replenishment period may vary on nature of the channel and season of deposition arising due to variation in the flow. Such period and season may vary on the geographical and precipitation characteristic of the region and requires to be defined by the local agencies preferable with the help of the Central Water Commission and Indian Meteorological Department. The excavation will, therefore, be limited to estimated replenishment estimated with consideration of other regulatory provisions.

Need for Sand Replenishment Study and Factors tobe considered

Environmental status of the mined out area may be affected badly if proper care is not taken to ensure sustainable extraction of sand from river bed. Proper study of the following factors must be taken into consideration to reveal the actual potential of sand deposition in river course after completion of periodical excavation annually. The main factors to be considered for the study of the replenishment potential of particular river course are:

Formation of sand comprises of the following:

- Catchment area and geographical strata
- Erosion, weathering and transportation of load
- Climatic conditions, precipitation
- Geomorphology, physiographic manmade structures and activity details

Deposition/sedimentation of material or sediment yield depends upon several factors like:

- Catchment area
- Span of river/ flood plain
- Travelling distance of suspended particles
- Slope/gradient/ depth of water channel;/meandering of river
- Geology traversed
- Climatic conditions
- Tributaries/ confluence
- Type/ stage of river and flow velocity
- Flow during lean period

Risk Assessment & Disaster Management Plan:

The Disaster Management Plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/induction conducted by the respective department from time to time.

General Responsibilities during an Emergency

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

Co-ordination withLocal Authorities

The mine manager who is responsible for emergency will always keep a jeep ready at site. In case any eventualities the victim will be taken to the nearby hospitals after carrying out the first aid at site. A certified first aid certificate holder will be responsible tocarry out the first aid at site. The mine manager should collect and have adequate information of the nearby hospitals, fire station, police station, village Panchayat heads, taxi stands, medical shop, district revenue authorities etc., and use them efficiently during the case of emergency.

Disaster Management Plan

The objectives of DMP are to describe the company's emergency preparedness, organization, the resource availability and response actions applicable to deal with various types of situations that can occur at mines in shortest possible time.

Thus, the overall objectives of the emergency plan are summarized as: -

- Rapid control and containment of Hazardous situation
- Minimum the risk and impact of event/ accident
- Effective prevention of damage to property.
- In order to achieve effectively the objectives of emergency planning, the critical elements that form the backbone of Disaster Management Plan (DMP) are: -

- Reliable and early detection of an emergency and immediate careful planning.
- The command, co-ordination and response organization structure along with availability of efficient trained personnel.
- The availability of resources for handling emergencies.
- Appropriate emergency response action.
- Effective notification and communication facilities.
- Regular review and updating DMP.
- Training of the concerned personnel.
- Steps taken for minimizing the effects may include rescue operations, first aid, evacuation, rehabilitation and communicating promptly to people living nearby.

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of Mines, State Government.

Details of the Occupational Health issues in the District:

Open cast method involves dust generation by excavation, loading and transportation of mineral. At site, during excavation and loading activity, dust is main pollutant which affects the health of workers whereas environmental and climatic conditions also generate the health problems. Addressing the occupational health hazard means gaining an understanding of the source (its location and magnitude or concentration), identifying an exposure pathway (e.g., a means to get it in contact with someone), and determination of likely a receptor (someone receiving the stuff that is migrating).

Occupational hazard due to open cast mining mainly comes under the physical hazards. Possible physical hazards are as below: -

Physical Hazards due to Mining Operations:

Following health related hazards were identified in open cast mining operations to the workers:

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Light: - The workers may be exposed to the risk of poor illumination or excessive brightness.The effects are eye strain, headache, eye pain and lachrymation, congestion around the cornea and eye fatigue. In present case, the mining activity is done during day time only.

Heat and Humidity: - The most common physical hazard is heat. The direct effects of heat exposure are burns, heat exhaustion, heat stroke and heat cramps; the indirect effects are decreased efficiency, increased fatigue and enhanced accident rates. Heat and humidity are encountered in hot and humid condition when temperatures and air temperatures increase in summer time up to 46.10C or above in the river bed mining area.

Eye Irritation: - During the high windy days in summer the dust could be the problems for eyes like itching and watering of eyes.

Respiratory Problems: - Large amounts of dust in air can be a health hazard, exacerbating respiratory disorders such as asthma and irritating the lungs and bronchial passages.

Noise Induced Hearing Loss: - Machinery is the main source of noise pollution at the mine site.

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Plantation and Green Belt Development in respect of lease granted in the District:

Mining activities result in pollution of the environment. This requires protection of our environment. Plantation is the oldest technology for the restoration of the land damaged by the human activities as well as air pollution.

Trees are highly suitable for the detection and monitoring of the air pollutants and have been effectively used at various places

By planting trees we can achieve the dual purpose of bio aesthetics as well as mitigation of pollution. Proper planning and plantation scheme depends upon the magnitude and type of pollution, selection of pollution tolerant and dust capturing plants

The plants should be ever green, large leaved, with rough bark, ecologically compatible, with low water requirement, requiring minimum care, capable to absorb pollutants, pollutant resistant, agro climatically suitable, fast growing, free from wind throw and breakage and with high pollution tolerance index. The specious should be suitable to the climate, topography and soil. A minimum two rows of plantation will be carried out to minimize the effect of pollution. This would attenuate the pollutants level.

However the afforestation should always be carried out in a systematic and scientific manner. It is proposed to carry the plantation along the river bank, both side of approach roads by considering 80% rate of survival. Trees like Karanj, Sheesham, Mango, Neem and some other varieties will be planted in consultant with forest department.

Recommended Plant species for green belt development/plantation

S.No.	Botanical Name	Family	Common Name
1.	Azadirachta indica	Meliaceae	Neem
2.	Ficus religiosa	Moraceae	Pipal
3.	Dalbargiasissoo	Fabaceae	Shisham
4.	Terminalia elliptica	Combretaceae	Saja
5.	Cassia Fistula	Caesalpiniaceae	Amaltas
6.	Sanegalia catechu	Mimosaceae	Khair
7.	Terminalia arjuna	Combretaceae	koha
8.	Bombax ceiba	Malvaceae	Semal
9.	Diospyros melanoxylon	Ebenaceae	Tendu
10.	Madhuca indica	Sapotaceae	Mahua
11.	Syzygium cumini	Myrtaceae	Jamun

Plantation has been done by project proponent on Barrier Zone, Non Mining Area, Approach road, nearby river bank and ravines etc. as per the suggestions of the authority.

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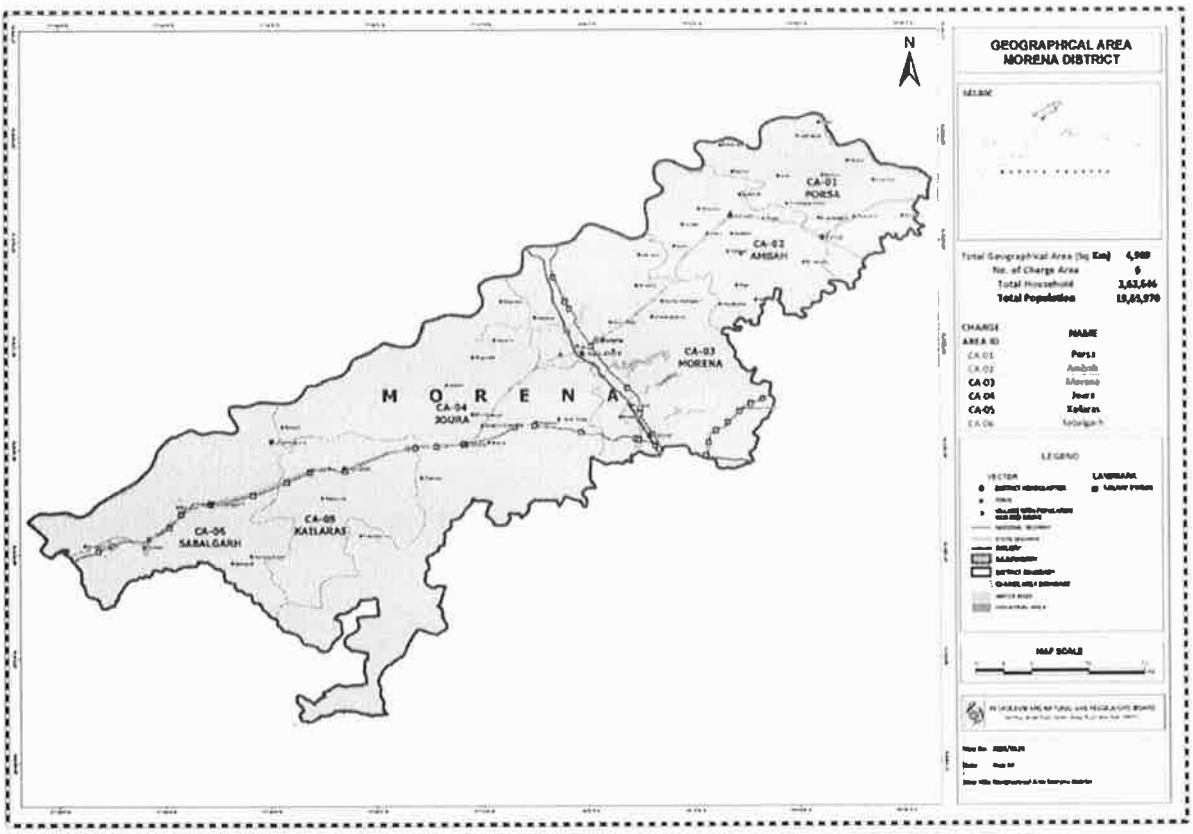
D.S.R. RELATED MAP DISTRICT MORENA



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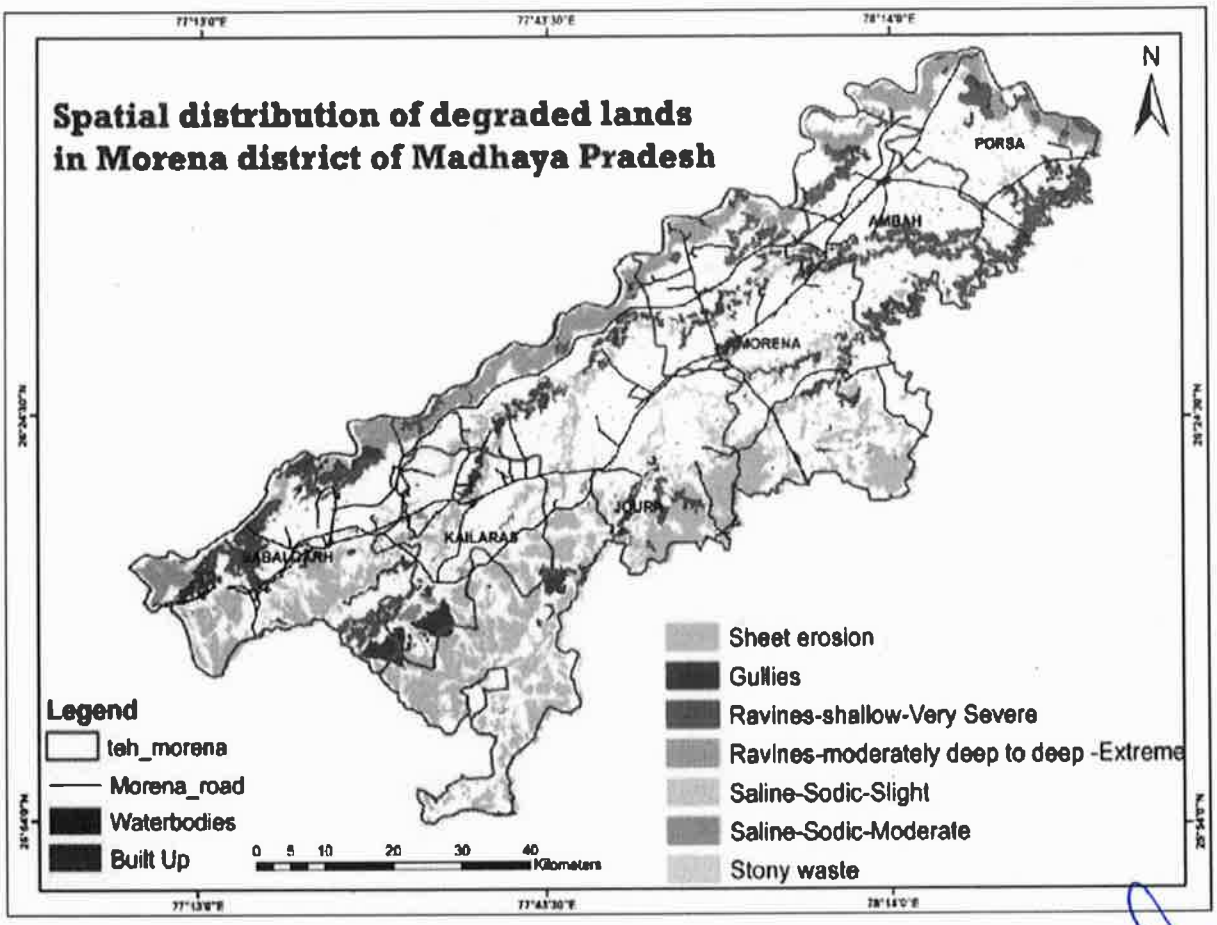
E-5, Arera ... (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना



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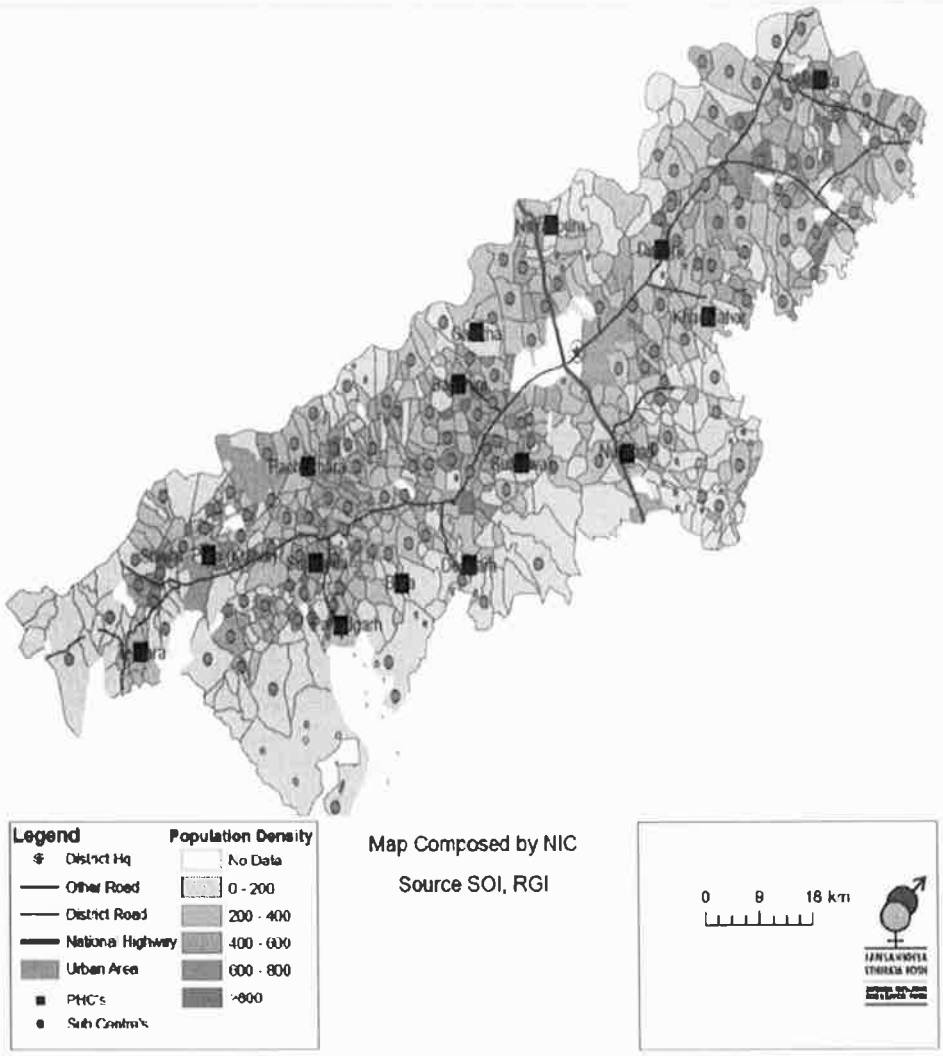
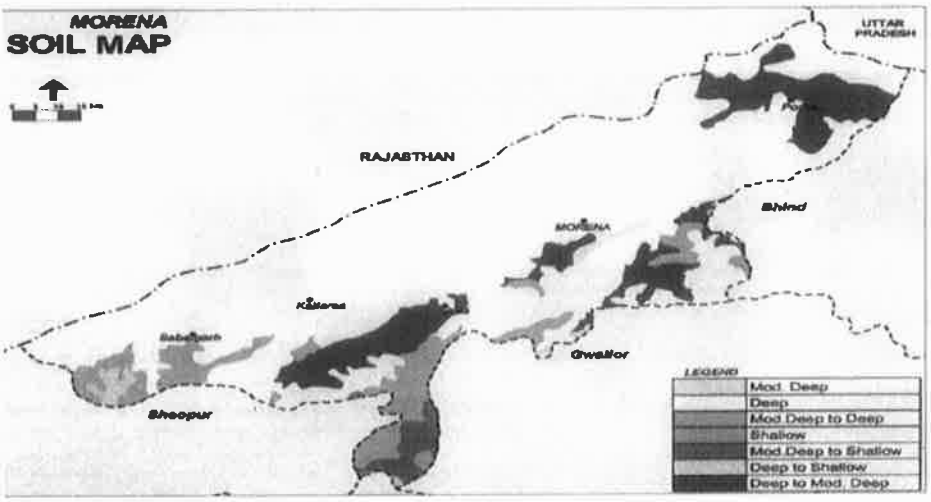


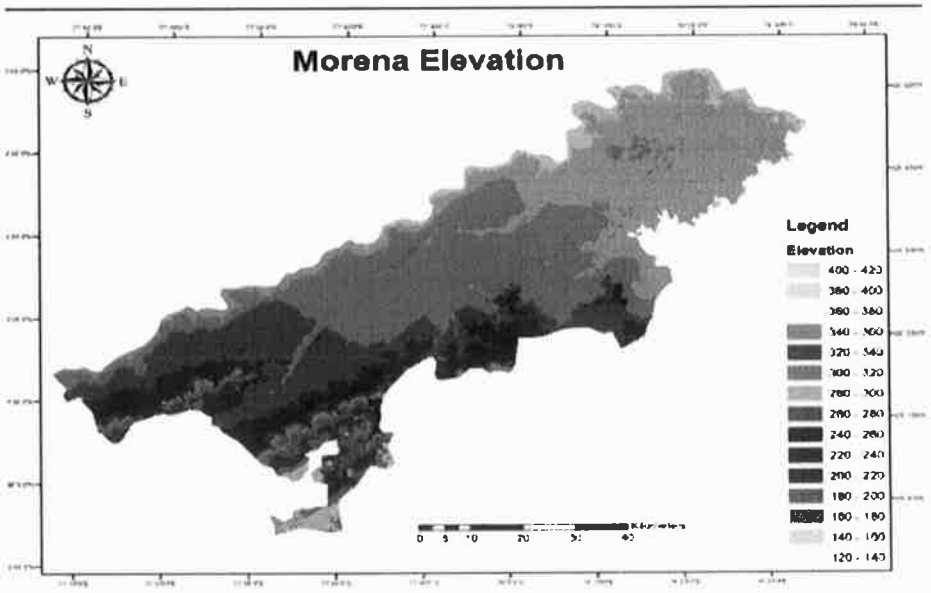
Map 8.1.6 showing population density, PHCs and Sub Centres in Morena, Blood bank is present in the District Headquarter shown above

E-5, Arera ... (M.P.)

जिला कार्यालय (आंकिज शाखा) मुरैना



Map 8.1.4 Soil profile map of Morena



Map 8.1.5 Elevation map of Morena

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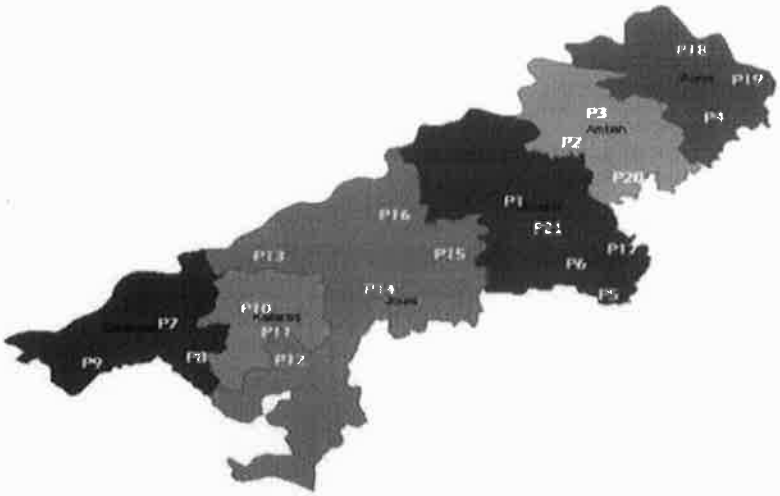

Legend

P1	Morena (Kotwali and Civil Lines)	P11	Nirar
		P12	Pahargarh
P2	Dimni	P13	Chinnoni
P3	Ambah	P14	Joura
P4	Porsa	P15	Sumawali
P5	Banmore	P16	Bagchini
P6	Noorabad	P17	Rithora
P7	Sabalgarh	P18	Mahua
P8	Rampur	P19	Nagara
P9	Tentra	P20	Sithonia
P10	Kailaras	P21	Matabasoi

Map 8.1.7 Showing the Police Thanas in Morena district

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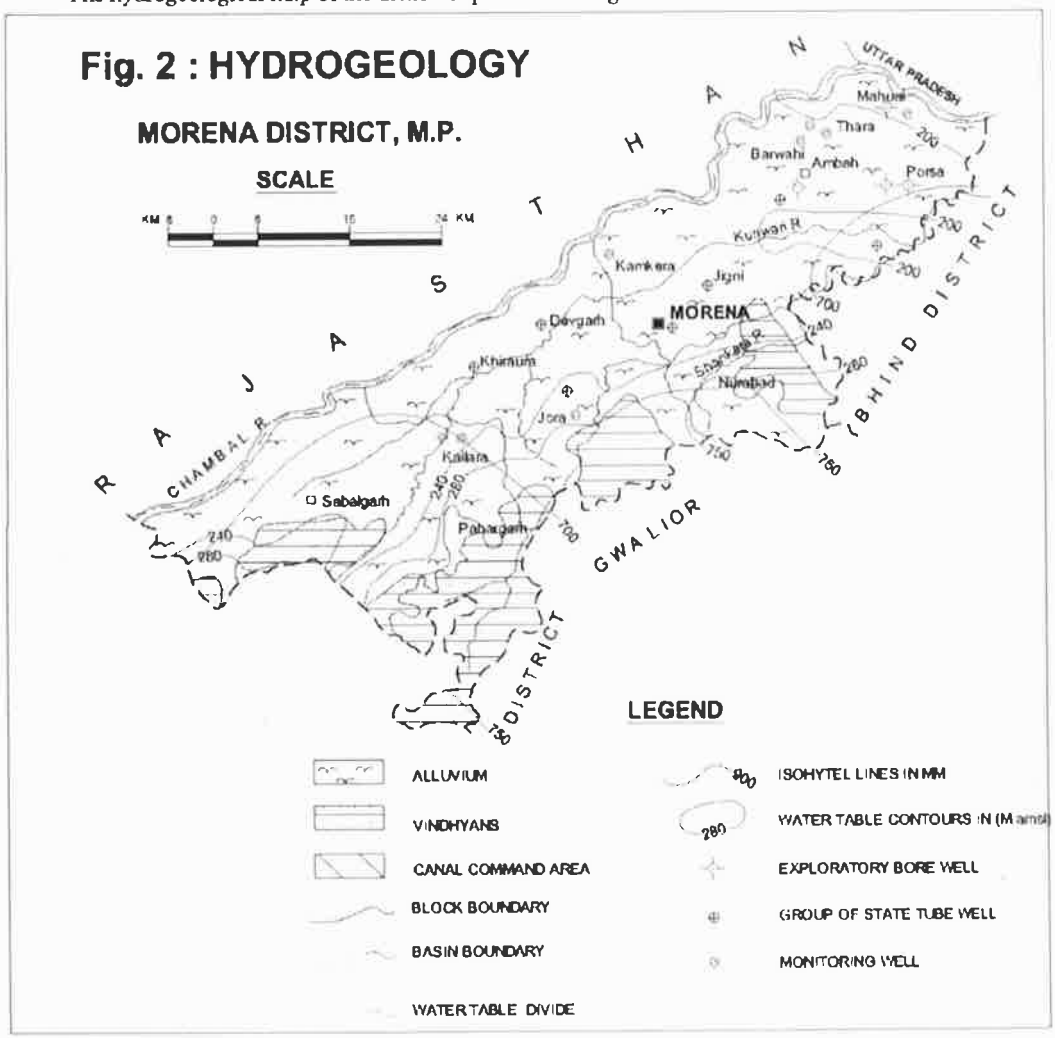
Paryavaran Parisar
E-5, Arera Colony, Bhopal (M.P.)

जिला कार्यालय (खनिज शाखा) मुरैना

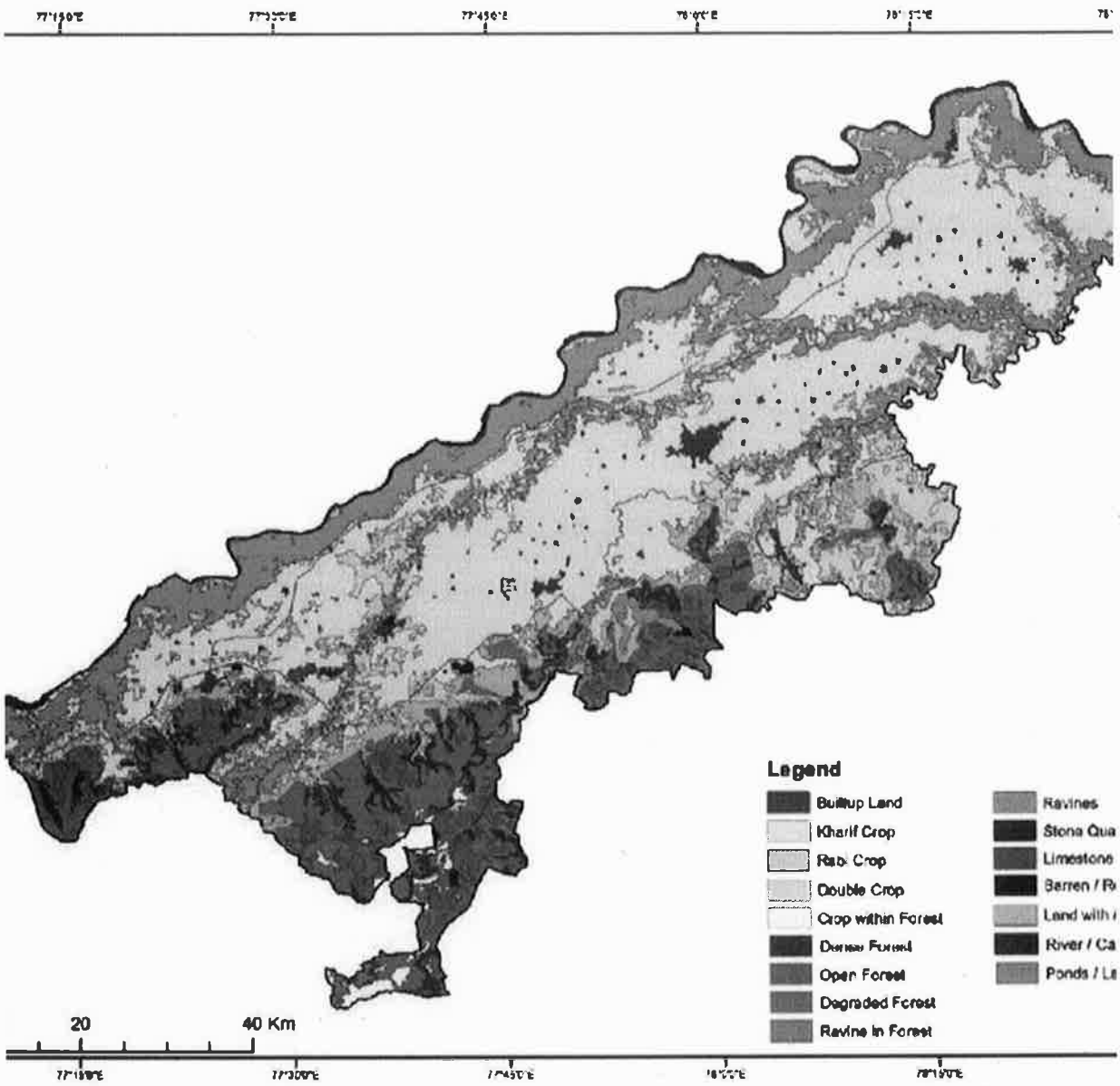
4.0 GROUND WATER SCENARIO

4.1 Hydrogeology

The hydrogeological map of the district is presented as figure 2.



Vindhian super group of rocks, sand stones and shales, laterite and alluvium are the rock types exposed in the area.(Fig 2) The area exhibits good development of sedimentary structures viz , current bedding, ripple marks, rain prints, rib and furrow structures, ball and



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E-5, Arera Colony, Bhopal (M.P.)

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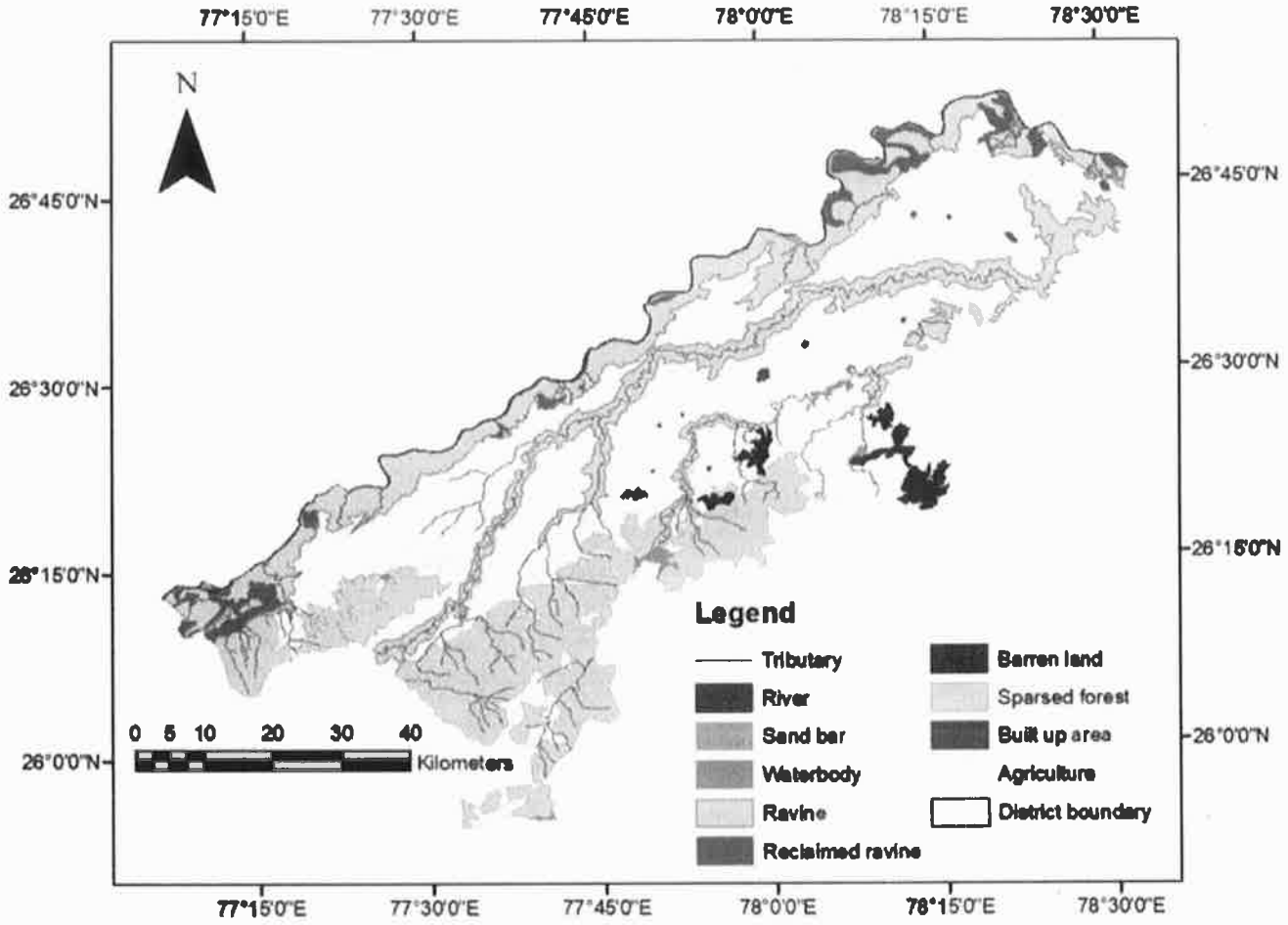
Land use /Land cover Map of Morena District 1974



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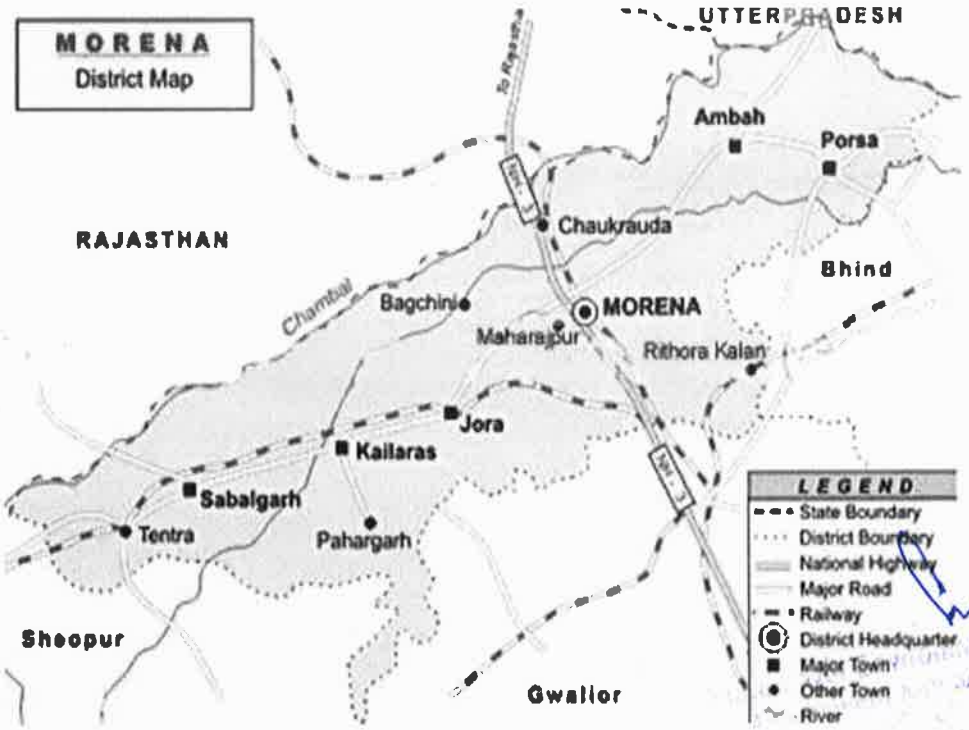
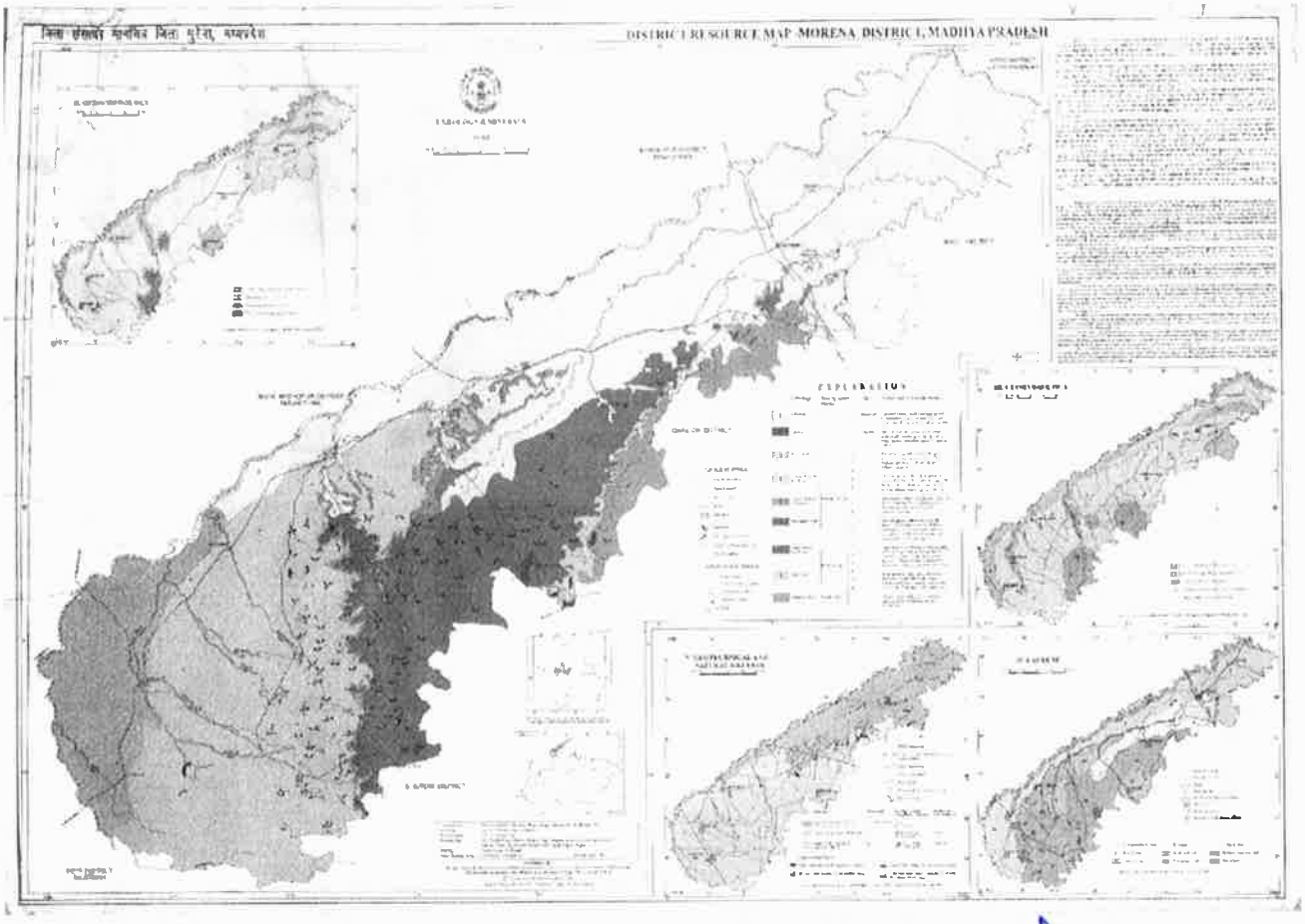


Map 8.1.1 District Map of Morena

जिला कार्यालय (खनिज शाखा) मुरैना।



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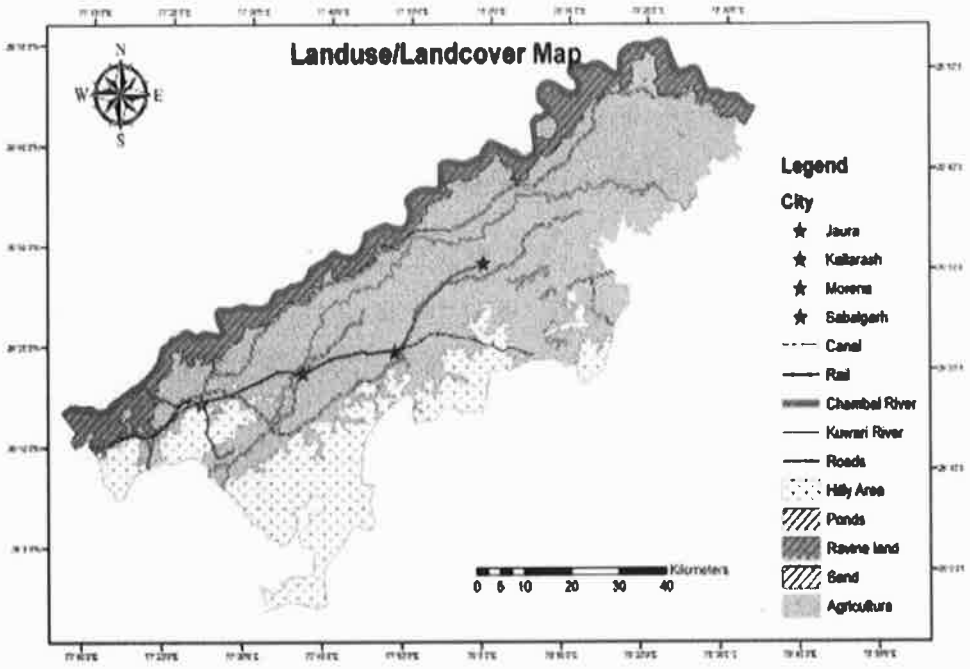
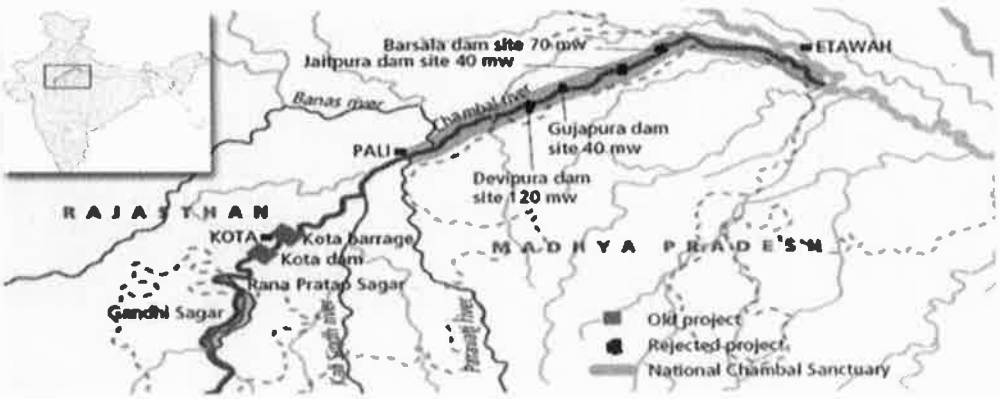


Map 8.1.2 Land-use/Land-cover Map of Morena



Map 8.1.3 Showing the Chambal River, National Chambal Sanctuary and Kota dam and barrage – flood in the Chambal River valley areas occurs when Chambal River overflows due to release of excess water into the river by the Kota barrage

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जला कार्यालय (खनिज शाखा) मुरैना।

(Mining)	
Hard Copy Soft Copy or both	Hard copy & Soft copy
SEAC meeting dated 21/09/22	जिले की जिला सर्वेक्षण रिपोर्ट मे तालिका क0 26 पेज न0. 37 में माइनेबल मिनरल पोटेंशियल (घनमीटर में) 60% टोटल मिनरल पोटेंशियल, लीजवार, लंबाई, चौड़ाई एंव गहराई के साथ दर्शाया है एवं विगत 03 वर्षो के उत्खनित रेत की मात्रा का लीजवार पोटेंशियल दिया गया है। जिससे ज्ञात हो सके कि उस स्थल पर खदान का मिनरल पोटेंशियल विगत 03 वर्षो मे कितना रहा।

चर्चा उपरांत समिति ने पाया कि खनि. अधिकारी, कार्यालय कलेक्टर, (खनिज शाखा) जिला–विदिशा के पत्र क0 2289, दिनांक 12/09/22 के माध्यम से मिनरल पोटेंशियल की गणना में आवश्यक संशोधन कर रेत की 60 प्रतिशत माइनेबल पोटेंशियल (रेत खनन हेतु) मीट्रिक टन यूनिट में प्रस्तुत कर दी गई है मिनरल पोटेंशियल की गणना दर्शाने वाली टेबल में आवश्यक संशोधन कर रेत की 60 प्रतिशत माइनेबल पोटेंशियल (रेत खनन हेतु) मीट्रिक टन यूनिट में प्रस्तुत कर दी गई है।

समिति की यह भी अनुशंसा है कि जिला स्तर पर जिला सर्वेक्षण रिपोर्ट तैयार करने हेतु गठित जिला समिति की अनुशंसा तथा की गई रिप्लेनिशमेंट स्टडी की जानकारी (जिसके आधार पर जिला सर्वेक्षण रिपोर्ट तैयार की गई हैं) संबंधित जिला खनिज अधिकारी कार्यालय में सुरक्षित रखी जाये ।

अतः समिति की अनुशंसा है कि विदिशा जिले की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये ।

17. जिला सर्वेक्षण रिपोर्ट, मुरैना–

अ. अन्य गौण खनिज – रेत को छोड़कर (मुरुम, फर्शी पत्थर, मिट्टी (चिमनी भट्टा), गिट्टी लेटेराईट, एवं शैल) जिला– मुरैना

आज दिनांक 22/09/22 को जिला सर्वेक्षण रिपोर्ट के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री एस. के. निर्मल, प्रभारी, खनिज अधिकारी के साथ उपस्थित रहे ।

Mineral	**Other Minor Minerals (Stone)**
Earlier DSR Discussed	SEAC 592th Meeting dated 06.09.22
Approved /or recommend for	Recommended for DSR Updation (**Other Minor Minerals)**

Updation (if Updation then elaborate issues)	
Deliberation in the SEAC 592th Meeting dated 06.09.22	राज्य स्तरीय मूल्यांकन समिति की 592वीं बैठक दिनांक 09/06/22 **जिला सर्वेक्षण रिपोर्ट, मुरैना–** **अ. गौण खनिज (मिट्टी), जिला, मुरैना,** आज दिनांक 06/9/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री विक्रांत वर्मा, खनिज अधिकारी के साथ उपस्थित रहे । जिले की संशोधित मंदसौर जिला सर्वेक्षण रिपोर्ट (गौण खनिज) मे पाया गया किः– जिला सर्वेक्षण रिपोर्ट गौण खनिज (मिट्टी) कें पेज क्र0. 10 में प्रदाय की तालिका में 16 बिन्दुओं की जानकारी का समावेश नही किया गया है जैसेः– • खनन प्रचालन के प्रारंभ होने की तारीख • कार्यशील /गैर कार्यशील केप्टिव /नॉन – केप्टिव • पर्यावरण स्वीकृति की स्थिति • खनन की स्थिति **ब. गौण खनिज (मुरूम खनिज), जिला, मुरैना** जिला सर्वेक्षण रिपोर्ट गौण खनिज (मुरूम खनिज) कें पेज क्र0. 10 में प्रदाय की तालिका में 16 बिन्दुओं की जानकारी का समावेश नही किया गया है जैसेः– • खनन प्रचालन के प्रारंभ होने की तारीख • कार्यशील /गैर कार्यशील केप्टिव /नॉन – केप्टिव • पर्यावरण स्वीकृति की स्थिति • खनन की स्थिति **स. गौण खनिज (फ्लेग स्टोन खनिज), जिला, मुरैना** जिला सर्वेक्षण रिपोर्ट गौण खनिज (फ्लेग स्टोन खनिज) के पेज क्र0. 10 में प्रदाय की तालिका में 16 बिन्दुओं की जानकारी का समावेश नही किया गया है जैसेः– • खनन प्रचालन के प्रारंभ होने की तारीख

	• कार्यशील /गैर कार्यशील केप्टिव /नॉन – केप्टिव • पर्यावरण स्वीकृति की स्थिति • खनन की स्थिति **<u>द. गौण खनिज (गिट्टी), जिला, मुरैना,</u>** जिला सर्वेक्षण रिपोर्ट गौण खनिज (गिट्टी) कें पेज क्र0. 09–12 में प्रदाय की तालिका में 16 बिन्दुओं की जानकारी का समावेश नही किया गया है जैसेः– • खनन प्रचालन के प्रारंभ होने की तारीख • कार्यशील /गैर कार्यशील केप्टिव /नॉन – केप्टिव • पर्यावरण स्वीकृति की स्थिति • खनन की स्थिति चर्चा के दौरान खनिज अधिकारी ने बताया कि मुरैना जिले में रेत खनिज की कोई खदान नहीं है। चर्चा उपरांत समिति की यह अनुशंसा है कि मुरैना की जिला सर्वेक्षण रिपोर्ट को समिति की सुझाई गयी उपरोक्त अनुशंसाओं के तारतम्य में अद्यतन (अपडेट) किया जाये तथा संशोधित जिला सर्वेक्षण रिपोर्ट पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय की अधिसूचना दिनांक 25/07/18 के अनुसार पुनः प्रस्तुत की जावे तत्संबंध में उपस्थित खनिज अधिकारी को भी उपरोक्त संदर्भ में समझाईश दी गयी।
Approved /or recommend for Updation (if Updation then elaborate issues)	DSR (**Other Minor Minerals**) for updation
Revised District Collectorate (Mining)	Vide District Collectorate (Mining) Office, Morena No. 996 dated 16.09.2022
SEAC meeting dated 21/09/22	आज दिनांक 22/9/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री विक्रांत वर्मा, खनिज अधिकारी के साथ उपस्थित रहे । जिले की संशोधित मंदसौर जिला सर्वेक्षण रिपोर्ट (गौण खनिज) मे पाया गया किः– कार्यालय कलेक्टर के पत्र क्र0. 1996 दिनांक 16/09/22 के माध्यम से जिला सर्वेक्षण रिपोर्ट– मुरैना (गौण खनिज–मुरूम) की जिला सर्वेक्षण रिपोर्ट उप समिती का अनुमोदन एंव जिला पोर्टल पर रखने के उपरांत प्रस्तुत की

	गई है। राज्य स्तरीय मूल्यांकन समिति की 595 वीं बैठक दिनांक 22/09/22 में सतना जिले की जिला सर्वेक्षण रिपोर्ट (गौण खनिज) पर चर्चा की गई जिसमें पाया गया किः– • जिले की जिला सर्वेक्षण रिपोर्ट के टेबिल क्रमांक–निरंक (पेज न0. – 6) में खदान की जानकारी निर्धारित प्रपत्र मे दे दी गई है। • जिले में हरित क्षेत्र के विकास हेतु पूर्व के वर्षो में लीज धारकों द्वारा किये गये वृक्षारोपण की जानकारी, संख्या एंव प्रजातियों की जानकारी टेबिल क्रमांक–निरंक (पेज क्र0. –6) मे दे दी गई है। **ब. गौण खनिज (फर्शी पत्थर), जिला, मुरैना** आज दिनांक 22/9/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री विक्रांत वर्मा, खनिज अधिकारी के साथ उपस्थित रहे । जिले की संशोधित मंदसौर जिला सर्वेक्षण रिपोर्ट (गौण खनिज) मे पाया गया किः– कार्यालय कलेक्टर के पत्र क्र0. 1996 दिनांक 16/09/22 के माध्यम से जिला सर्वेक्षण रिपोर्ट– मुरैना (फर्शी पत्थर) की जिला सर्वेक्षण रिपोर्ट उप समिती का अनुमोदन एंव जिला पोर्टल पर रखने के उपरांत प्रस्तुत की गई है। राज्य स्तरीय मूल्यांकन समिति की 595 वीं बैठक दिनांक 22/09/22 में सतना जिले की जिला सर्वेक्षण रिपोर्ट (गौण खनिज) पर चर्चा की गई जिसमें पाया गया किः– • जिले की जिला सर्वेक्षण रिपोर्ट के टेबिल क्रमांक–निरंक (पेज न0. –10–11) में खदान की जानकारी निर्धारित प्रपत्र मे दे दी गई है। • जिले में हरित क्षेत्र के विकास हेतु पूर्व के वर्षो में लीज धारकों द्वारा किये गये वृक्षारोपण की जानकारी, संख्या एंव प्रजातियों की जानकारी टेबिल क्रमांक–निरंक (पेज क्र0. 10–11) मे दे दी गई है। **स. गौण खनिज– मिट्टी (चिमनी भट्टा), जिला, मुरैना** आज दिनांक 22/9/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री विक्रांत वर्मा, खनिज अधिकारी के साथ उपस्थित रहे । जिले की संशोधित मंदसौर जिला सर्वेक्षण रिपोर्ट (गौण खनिज) मे पाया गया किः–

	कार्यालय कलेक्टर के पत्र क्र0. 1996 दिनांक 16/09/22 के माध्यम से जिला सर्वेक्षण रिपोर्ट– मुरैना मिट्टी (चिमनी भटटा) की जिला सर्वेक्षण रिपोर्ट उप समिती का अनुमोदन एंव जिला पोर्टल पर रखने के उपरांत प्रस्तुत की गई है। राज्य स्तरीय मूल्यांकन समिति की 595 वीं बैठक दिनांक 22/09/22 में सतना जिले की जिला सर्वेक्षण रिपोर्ट (गौण खनिज) पर चर्चा की गई जिसमें पाया गया किः– • जिले की जिला सर्वेक्षण रिपोर्ट के टेबिल क्रमांक–निरंक (पेज न0. –10–16) में खदान की जानकारी निर्धारित प्रपत्र मे दे दी गई है। • जिले में हरित क्षेत्र के विकास हेतु पूर्व के वर्षो में लीज धारकों द्वारा किये गये वृक्षारोपण की जानकारी, संख्या एंव प्रजातियों की जानकारी टेबिल क्रमांक–निरंक (पेज क्र0. – 10– 16) मे दे दी गई है। **द. गौण खनिज (गिट्टी), जिला, मुरैना,** आज दिनांक 22/9/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री विक्रांत वर्मा, खनिज अधिकारी के साथ उपस्थित रहे । जिले की संशोधित मंदसौर जिला सर्वेक्षण रिपोर्ट (गौण खनिज) मे पाया गया किः– कार्यालय कलेक्टर के पत्र क्र0. 1996 दिनांक 16/09/22 के माध्यम से जिला सर्वेक्षण रिपोर्ट– मुरैना (**गिट्टी**) की जिला सर्वेक्षण रिपोर्ट उप समिती का अनुमोदन एंव जिला पोर्टल पर रखने के उपरांत प्रस्तुत की गई है। राज्य स्तरीय मूल्यांकन समिति की 595 वीं बैठक दिनांक 22/09/22 में सतना जिले की जिला सर्वेक्षण रिपोर्ट (गौण खनिज) पर चर्चा की गई जिसमें पाया गया किः– • जिले की जिला सर्वेक्षण रिपोर्ट के टेबिल क्रमांक–निरंक (पेज न0. 9–25) में खदान की जानकारी निर्धारित प्रपत्र मे दे दी गई है। • जिले में हरित क्षेत्र के विकास हेतु पूर्व के वर्षो में लीज धारकों द्वारा किये गये वृक्षारोपण की जानकारी, संख्या एंव प्रजातियों की जानकारी टेबिल क्रमांक–निरंक (पेज क्र0. 9–25) मे दे दी गई है।

समिति ने पाया कि खनि. अधिकारी,कार्यालय कलेक्टर,(खनिज शाखा) जिला– मुरैना के पत्र क्र0 996/खनिज/2022 दिनांक 16/09/22 के माध्यम खदान की जानकारी निर्धारित प्रपत्र मे दे दी

गई है । अतः समिति मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (अन्य गौण खनिज (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये।

22. जिला सर्वेक्षण रिपोर्ट, बैतूल –

अ. रेत खनिज

कार्यालय कलेक्टर के पत्र क्र0. 1378 दिनांक 19/09/2022 के माध्यम से जिला सर्वेक्षण रिपोर्ट, बैतूल (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट उप समिती का अनुमोदन एंव जिला पोर्टल पर रखने के उपरांत प्रस्तुत की गई है।

आज दिनांक 22/09/22 को जिला सर्वेक्षण रिर्पोटो के प्रस्तुतीकरण के दौरान संचानालय, भौमिकी एंव खनिकर्म, विभाग भोपाल से श्री पी.पी. राय, एवं श्री बी. के. नागवंशी, खनिज निरीक्षक के साथ उपस्थित रहे ।

Mineral	**Sand**
Earlier DSR Discussed	SEAC 594th Meeting dated 22.09.22
Revised DSR received from District Collectorate (Mining)	Received soft copy vide District Collectorate (Mining) Office, Baitul letter No. 1379 dated 22.09.2022
Hard Copy Soft Copy or both	Hard copy
SEAC meeting dated 22/09/22	जिले की जिला सर्वेक्षण रिपोर्ट मे तालिका क्र0. –निरंक पेज न0. 47-49 में माइनेबल मिनरल पोटेंशियल (घनमीटर में) 60% टोटल मिनरल पोटेंशियल, लीजवार, लंबाई, चौड़ाई एंव गहराई के साथ दर्शाया है एवं विगत 03 वर्षो के उत्खनित रेत की मात्रा का लीजवार पोटेंशियल दिया गया है। जिससे ज्ञात हो सके कि उस स्थल पर खदान का मिनरल पोटेंशियल विगत 03 वर्षो मे कितना रहा।

चर्चा उपरांत समिति ने पाया कि खनि. अधिकारी,कार्यालय कलेक्टर,(खनिज शाखा) जिला–बैतूल के पत्र क्र0 1379, दिनांक 22/09/22 के माध्यम से मिनरल पोटेंशियल की गणना में आवश्यक संशोधन कर रेत की 60 प्रतिशत माइनेबल पोटेंशियल (रेत खनन हेतु) मीट्रिक टन यूनिट में प्रस्तुत कर दी गई है मिनरल पोटेंशियल की गणना दर्शाने वाली टेबल में आवश्यक संशोधन कर रेत की

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 594वीं बैठक दिनांक 21/09/2022 में अशोकनगर (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

".....समिति की अनुशंसा है कि अशोकनगर जिले की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये।

जिला कलेक्टर अशोकनगर की सदस्य सचिव, SEIAA से दूरभाष पर हुई चर्चानुसार जिला अशोकनगर की जिला सर्वेक्षण रिपोर्ट अद्यतन की जा रही है। राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत निर्णय लिया गया कि जिला अशोकनगर की जिला सर्वेक्षण रिपोर्ट अद्यतन कर सीधे ही SEAC को प्रेषित की जाये। तदानुसार संचालक, भौमिकी तथा खनिकर्म एवं जिला कलेक्टर अशोकनगर को सूचित किया जाये।

20. जिला सर्वेक्षण रिपोर्ट – विदिशा (रेत खनिज)

राज्य स्तरीय समाघात निर्धारण प्राधिकरण द्वारा 752वी बैठक दिनांक 15.10.2022 में निम्नानुसार निर्णय लिया गया :–

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 595वीं बैठक दिनांक 22/09/2022 में विदिशा (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

".....समिति की अनुशंसा है कि विदिशा जिले की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये ।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 595वीं बैठक दिनांक 22/09/2022 की अनुशंसा को मान्य करते हुए विदिशा (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है।

तदानुसार जिला कलेक्टर, विदिशा को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक भौमिकी तथा खनिकर्म को सूचित किया जाये।

21. जिला सर्वेक्षण रिपोर्ट, मुरैना (अन्य गौण खनिज– रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल)

राज्य स्तरीय समाघात निर्धारण प्राधिकरण द्वारा 752वी बैठक दिनांक 15.10.2022 में निम्नानुसार निर्णय लिया गया :–

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 595वीं बैठक दिनांक 22/09/2022 में मुरैना (अन्य गौण खनिज – रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

(श्रीमन् शुक्ला)	(अनिल कुमार शर्मा)	(अरूण कुमार भट्ट)
सदस्य सचिव	सदस्य	अध्यक्ष

".....समिति की अनुशंसा है कि मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (अन्य गौण खनिज (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 595वीं बैठक दिनांक 22/09/2022 की अनुशंसा को मान्य करते हुए मुरैना (अन्य गौण खनिज – रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) की जिला सर्वेक्षण रिपोर्ट का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है।

तदानुसार जिला कलेक्टर, मुरैना को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक भौमिकी तथा खनिकर्म को सूचित किया जाये।

22. जिला सर्वेक्षण रिपोर्ट– बैतूल (रेत खनिज)

राज्य स्तरीय समाघात निर्धारण प्राधिकरण द्वारा 752वी बैठक दिनांक 15.10.2022 में निम्नानुसार निर्णय लिया गया :–

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 595वीं बैठक दिनांक 22/09/2022 में बैतूल (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

".....समिति की अनुशंसा है कि बैतूल जिले की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये ।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 595वीं बैठक दिनांक 22/09/2022 की अनुशंसा को मान्य करते हुए बैतूल (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है।

तदानुसार जिला कलेक्टर, बैतूल को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक भौमिकी तथा खनिकर्म को सूचित किया जाये।

23. जिला सर्वेक्षण रिपोर्ट – शाजापुर (रेत खनिज)

राज्य स्तरीय समाघात निर्धारण प्राधिकरण द्वारा 752वी बैठक दिनांक 15.10.2022 में निम्नानुसार निर्णय लिया गया :–

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 595वीं बैठक दिनांक 22/09/2022 में शाजापुर (रेत खनिज) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

".....समिति की अनुशंसा है कि शाजापुर जिले की जिला सर्वेक्षण रिपोर्ट (रेत खनिज) अनुमोदन हेतु विचारार्थ एवं आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघॉत निर्धारिण प्राधिकारण की ओर प्रेषित किया जाये।

(श्रीमन् शुक्ला)	(अनिल कुमार शर्मा)	(अरूण कुमार भट्ट)
सदस्य सचिव	सदस्य	अध्यक्ष

राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, म.प्र.

(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)

पर्यावरण नियोजन एवं समन्वय संगठन
पर्यावरण परिसर, ई–5, अरेरा कॉलोनी
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फैक्स नं. – 0755–2462136

No: 1963 / SEIAA/2022
Date: 28/10/22

प्रति,

कलेक्टर
जिला – मुरैना (म.प्र.)

विषयः नवीन जिला सर्वेक्षण रिपोर्ट – मुरैना (अन्य गौण खनिज– रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल)

संदर्भः आपका पत्र क्र. 996/खनिज/2022 दिनांक 16/09/22

राज्य स्तरीय समाघात निर्धारण प्राधिकरण द्वारा 752वी बैठक दिनांक 15.10.2022 में निम्नानुसार निर्णय लिया गया :–

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति (SEAC) की 595वीं बैठक दिनांक 22/09/2022 में मुरैना (अन्य गौण खनिज – रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) की जिला सर्वेक्षण रिपोर्ट में निम्नानुसार सुझाव सहित अनुशंसा की गई है।

".....समिति की अनुशंसा है कि मुरैना जिले की जिला सर्वेक्षण रिपोर्ट (अन्य गौण खनिज (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) अनुमोदन हेतु विचारार्थ एंव आगामी कार्यवाही हेतु राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण की ओर प्रेषित की जाये।

राज्य स्तरीय समाघात निर्धारण प्राधिकरण (SEIAA) द्वारा विस्तृत चर्चा एवं विचार विमर्श उपरांत SEAC की 595वीं बैठक दिनांक 22/09/2022 की अनुशंसा को मान्य करते हुए मुरैना (अन्य गौण खनिज – रेत को छोड़कर (मुरूम, फर्शी पत्थर, मिट्टी (चिमनी भटटा), गिट्टी लेटेराईट, एवं शैल) की जिला सर्वेक्षण रिपोर्ट का अनुमोदन SEAC द्वारा सुझाई गई उपरोक्त अनुशंसाओं के साथ किया जाता है। तदानुसार जिला कलेक्टर, मुरैना को जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करवाये जाने एवं संचालक भौमिकी तथा खनिकर्म को सूचित किया जाये।

उपरोक्त निर्णयानुसार कृपया अनुमोदित नवीन जिला सर्वेक्षण रिपोर्ट जिला पोर्टल पर अपलोड करने का कष्ट करें। सुलभ संदर्भ हेतु अनुमोदित नवीन जिला सर्वेक्षण रिपोर्ट की साफ्टकॉपी ई–मेल के माध्यम से आपकी ओर प्रेषित है।

(श्रीमन् शुक्ला)
सदस्य सचिव

क्र.. /SEIAA/2022 भोपाल दिनांक

प्रतिलिपि :–

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2. **संचालक, प्रशासन/तकनीकी,** संचालनालय, भौमिकी तथा खनिकर्म, 29–ए, खनिज भवन, अरेरा हिल्स, भोपाल (म.प्र.)
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सदस्य सचिव